Melinda Rostal

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EDUCATION:

University of Glasgow — Glasgow, UK
PhD Epidemiology — October 2015 – June 2020
University of Minnesota — St. Paul, MN
Doctor of Veterinary Medicine — September 2004 - May 2008
Master of Public Health — May 2005 - November 2007
Princeton, University — Princeton, NJ
A.B., Ecology and Evolutionary Biology Cum Laude — September 1999 - May 2003

WORK EXPERIENCE:

One Health Research Consulting — Glen Rock, NJ
Principal Consultant, Veterinary Epidemiology — 2024-present

University of Pretoria — Pretoria, South Africa
Extraordinary Lecturer — 2024-present
Faculty of Veterinary Sciences

EcoHealth Alliance — New York, NY
Principal Research Scientist, Vector-Borne Diseases — 2019-2024
Rift Valley Fever Project Manager and Co-PI — 2014-2024
Senior Research Scientist — 2012-2019
PREDICT-2 EHA Outbreak Coordinator — 2017-2019
PREDICT-2 EHA Surveillance Coordinator — 2014-2019
PREDICT EHA Latin America Regional Coordinator — 2011-2014
PREDICT/PREDICT-2 Bangladesh Country Liaison — 2010-2019
Field Veterinarian — 2010-2012
520 Eighth Avenue, Ste 1200, New York, NY 10018

Columbia University — New York, NY
Adjunct Research Scientist, Department of Ecology, Evolution and Environmental Biology — December 2010 - 2024

Tahoma Veterinary Hospital — Spanaway, WA
Associate mixed animal practitioner — June 2008- March 2010
3317 224th St E Spanaway, WA 98387

PUBLICATIONS:

ORCID: 0000-0002-6563-5280.

In review:

1. Rostal MK, Prentice J, Ross N, Kemp A, Thompson PN, Anyamba A, Cleaveland S, Cordel C, Msimang V, van Vuren, JP, Haydon D, Karesh WB, Paweska JP, Matthews L. (In Revision) Long-term Rift Valley fever virus persistence in a temperate climate depends on a high fraction of transovarial transmission. BioRxiv. DOI: 10.1101/2023.10.27.564291. In revision for **Proceedings of the Royal Society B**.

Published:

2. Makhanthisa TI, Guarido MM, Kemp A, Weyer J, Rostal MK, Karesh WB, Thompson PN. (2024) Characterization of mosquito host-biting networks of potential Rift Valley fever virus vectors in north-eastern KwaZulu-Natal Province, South Africa. **Parasites & Vectors**. 17:341. DOI: 10.1186/s13071-024-06416-0.

3. Hughes EC, de Glanville W, Kibona T, Mmbaga BT, Rostal MK, Swai E, Cleaveland S, Lankester F, Willett BJ, Allan KJ. (2024) Patterns of Crimean-Congo haemorrhagic fever virus seroprevalence in human and livestock populations in northern Tanzania. **Emerging Infectious Diseases**. 30(4):836-838. DOI: 10.3201/eid3004.231204.
4. Gibson S, Tubbs H, Cohnstaedt L, Wilson W, Mire C, Mitzel D, Anyamba A, Rostal M, Linthicum K. (2023) The increasing threat of Rift Valley fever virus globalization: Strategic guidance for protection and preparation. **Journal of Medical Entomology** 60(6):1197-1213. DOI: 10.1093/jme/tjad113.
5. Rahman MK, Hassan MM, Islam S, Rostal MK, Uddin MH, Hagan E, Samad MA, Flora MS, Epstein JH and Islam A (2023) Characterization and epidemiology of antimicrobial resistance patterns of *Salmonella* spp. and *Staphylococcus* spp. in free-ranging rhesus macaque (*Macaca mulatta*) at high-risk interfaces with people and livestock in Bangladesh. **Frontiers in Veterinary Science** 10:1103922. DOI: 10.3389/fvets.2023.1103922.
6. de Glanville WA, Nyarobi JM, Allan K, Thomas K, Kibona T, Lankester F, Halliday JEB, Claxton JR, Szemiel AM, Brennan B, Rostal MK, Sanka P, Mramba F, Carter RW, de Ladbury G, Rubach MP, Crump JA, Mmbaga BT, Nyasebwa OM, Swai E, Willett B, Cleaveland S. (2022) An outbreak of Rift Valley fever among peri-urban dairy cattle in northern Tanzania. **Transactions of The Royal Society of Tropical Medicine and Hygiene** 116(11):1082-1090. DOI: 10.1093/trstmh/trac076.
7. Pandit PS, Anthony SJ, Goldstein T, Olival KJ, Doyle MM, Gardner NR, Bird B, Smith W, Wolking D, Gilardi K, Monagin C, Kelly T, Uhart M, Epstein J, Machalaba C, Rostal MK, Dawson P, Hagan E, Sullivan A, Li H, Chmura A, Latinne A, Lange C, O'Rourke T, Olson S, Keatts L, Mendoza P, Perez A, Dejuste de Paula C, Zimmerman D, Valitutto M, LeBreton M, McIver D, Islam A, Duong V, Mouiche M, Shi Z, Mulembakani P, Kumakamba C, Ali M, Kebede N, Tamoufe U, Bel-Nono S, Camara A, Pamungkas J, Coulibaly K, Abu-Basha E, Kamau J, Silithammavong S, Desmond J, Hughes T, Shiilegdamba E, Aung O, Karmacharya D, Nziza J, Ndiaye D, Gbakima A, Sijali Z, Wacharapluesadee S, Alandia Robles E, Ssebide B, Suzán G, Aguirre LF, Solorio MR, Dhole TN, Nga NTT, Hitchens PL, Joly D, Saylors K, Fine A, Murray S, Karesh WB, Daszak P, Mazet JK, PREDICT Consortium, Johnson CK (2022) Predicting the potential for zoonotic transmission and host associations for novel viruses. **Communications Biology** 5:844. DOI: 10.1038/s42003-022-03797-9.
8. de Glanville WA*, Nyarobi JM*, Kibona T, Halliday JEB, Thomas K, Allan K, Johnson PCD, Davis A, Davis A, Lankester F, Claxton JR, Rostal MK, Carter RW, de Jong RMF, Rubach MP, Crump JA, Mmbaga BT, Nyasebwa OM, Swai E, Willett B, Cleaveland S. (2022) Inter-epidemic Rift Valley fever virus infection incidence and risks for zoonotic spillover in northern Tanzania. **PLOS Neglected Tropical Diseases** 16(10): e0010871. DOI: 10.1371/journal.pntd.0010871.
   *These authors contributed equally
9. Wells HL, Loh E, Nava A, Romero Solorio M, Lee M, Lee J, Sukor JRA, Navarrete-Macias I, Liang E, Firth C, Epstein J, Rostal M, Zambrana-Torrelio C, Murray K, Daszak P, Goldstein T, Mazet JAK, Lee B, Hughes T, Durigon E, Anthony SJ. (2022) Classification of new morbillivirus and jeilongvirus sequences from bats sampled in Brazil and Malaysia. **Archives of Virology** 167:1977–1987. DOI: 10.1007/s00705-022-05500-z.
10. Msimang V, Rostal MK, Cordel C, Machalaba C, Tempia S, Bagge W, Burt FJ, Karesh WB, Paweska JT, Thompson PN. (2022) Factors affecting the use of biosecurity measures for the protection of ruminant livestock and farmworkers against infectious

diseases in central South Africa. **Transboundary and Emerging Diseases** 1-14. DOI: 10.1111/tbed.14525.

11. Anyamba AA, Damoah R, Kemp A, Small J, Rostal MK, Bagge W, Cordel C, Brand R, Karesh, WB, Paweska JT. (2022) Climate conditions during a Rift Valley fever post-epizootic period in Free State, South Africa, 2014-2019. **Frontiers in Veterinary Sciences** 8:730424. DOI: 10.3389/fvets.2021.730424.
12. Shano S, Islam A, Hagan E, Watson B, All Shakil A, Hasan M, Rostal MK, Francisco L, Hussain M, Rahman M, Flora MS, Epstein JH, and Daszak P. (2021) Environmental Change and Zoonotic Disease Risk at Human-Macaque Interfaces in Bangladesh. **EcoHealth** 18(4):487–499. DOI: 10.1007/s10393-021-01565-5.
13. Msimang V, Weyer J, le Roux C, Kemp A, Burt FJ, Tempia S, Grobbelaar A, Moolla N, Rostal MK, Bagge W, Cordel C, Karesh WB, Paweska JT, Thompson PN. (2021) Risk factors associated with exposure to Crimean-Congo haemorrhagic fever virus in animal workers and cattle, and molecular detection in ticks, South Africa. **PLOS Neglected Tropical Diseases** 15(5)e0009384. DOI: 10.1371/journal.pntd.0009384.
14. Machalaba C, Raufman J, Anyamba A, Berrian A, Berthe FCJ, Gray GC, Jonas O, Karesh WB, Larsen MH, Laxminarayan R, Madoff LC, Martin K, Mazet JAK, Mumford E, Parker T, Pintea L, Rostal MK, Ruiz de Castañeda R, Vora NM, Wannous C, Weiss L. (2021) Applying a One Health approach in global health and medicine: Enhancing involvement of medical schools and global health centers. **Annals of Global Health** 87(1):30. DOI: 10.5334/aogh.2647.
15. Rostal MK, Cordel C, van Staden L, Haydon D, Paweska JP, Karesh WB, Cleaveland S, Matthews L, Ross N. (2020) Farm-Level Risk Factors of Increased Abortion and Mortality in Domestic Ruminants during the 2010 Rift Valley Fever Outbreak in Central South Africa. **Pathogens** 9:914. DOI: 10.3390/pathogens9110914.
16. Islam A, Hossain ME, Rostal MK, Mukharjee SK, Rahman MM, Rahman MZ, Daszak P, Epstein, JH. (2020) Epidemiology and molecular characterization of rotavirus A in fruit bats in Bangladesh. **EcoHealth** 17(3):398-405. DOI: 10.1007/s10393-020-01488-7.
17. Verster AM, Rostal MK, Liang JE, Kemp A, Brand RF, Anyamba A, Schal R, Paweska JT, Karesh WB, van Huyssteen CW. (2020) Selected wetland soil properties correlate to Rift Valley fever livestock mortalities reported in 2009-10 in central South Africa. **PLoS One** 15(5):e0232481. DOI: 10.1371/journal.pone.0232481.
18. Ngoshe Y*, Avenant L*, Rostal MK, Karesh WB, Paweska JP, Bagge WB, Jansen van Vuren, JP, Kemp A, Cordel C, Msimang V, Thompson P. (2020) Patterns of Rift Valley fever virus seropositivity in domestic ruminants in central South Africa four years after a large outbreak. **Scientific Reports** 10:5489. DOI: 10.1038/s41598-020-62453-6. *These authors contributed equally
19. Islam A, Hossain ME, Haider N, Rostal MK, Mukharjee SK, Ferdous J, Miah M, Rahman M, Daszak P, Rahman MZ, Epstein JH. (2019) Molecular characterization of group A rotavirus from rhesus macaques (*Macaca mulatta*) at human–wildlife interfaces in Bangladesh. **Transboundary and Emerging Diseases** 67(2): 956-966. DOI: 10.1111/tbed.13431.
20. Msimang V, Thompson PN, Jansen van Vuren P, Tempia S, Cordel C, Kgaladi J, Khosa J, Burt FJ, Liang J, Rostal MK, Karesh WB, Paweska JP. (2019) Rift Valley fever virus exposure amongst farmers, farm workers, and veterinary professionals in central South Africa. **Viruses** 11:140. DOI: 10.3390/v11020140.
21. Brand R, Rostal MK, Kemp A, Anyamba A, Zweigers H, van Huyssteen C, Karesh WB, Paweska JP. (2018) A phytosociological analysis and description of wetland vegetation and ecological factors associated with locations of high mortality for the 2010-11 Rift

Valley fever outbreak in South Africa. **PLoS One** 13(2): e0191585. DOI: 10.1371/journal.pone.0191585.
22. Rostal MK, Ross N, Machalaba C, Cordel C, Paweska JT, Karesh WB. (2018) Benefits of a One Health approach: An example using Rift Valley fever. **One Health** 5:34-36. DOI: 10.1016/j.onehlt.2018.01.001.
23. Islam A, Epstein JH, Rostal MK, Islam S, Rahman MZ, Hossain ME, Uzzaman MJ, Munster V, Peiris M, Flora MS, Rahman M, Daszak P. (2018) Middle East respiratory syndrome coronavirus antibodies in dromedary camels (*Camelus dromedarius*) Bangladesh, 2015. **Emerging Infectious Diseases** 24(5):926-928. DOI: 10.3201/eid2405.171192.
24. Rostal MK, Liang JE, Zimmermann D, Bengis R, Paweska JP, Karesh WB. (2017) Rift Valley fever: Does wildlife play a role? International **Journal of Laboratory Animals** 1–12. DOI: 10.1093/ilar/ilx023.
25. White A, Zambrana-Torrelio C, Allan C, Rostal MK, Wright AK, Ball E, Daszak P, Karesh WB. (2017) Hotspots of canine leptospirosis in the United States. **The Veterinary Journal** 222:26-35. DOI: 10.1016/j.tvjl.2017.02.009.
26. Sotomayor-Bonilla J, Abella-Medrano CA, Chaves A, Álvarez-Mendizábal P, Rico-Chávez O, Ibáñez-Bernal S, Rostal MK, Ojeda-Flores R, Barbachano-Guerrero A, Gutiérrez-Espeleta G, Aguirre AA, Daszak P, Suzán G. (2017) potential sympatric vectors and mammalian hosts of Venezuelan equine encephalitis virus in southern Mexico. **Journal of Wildlife Diseases** 53(3): 657-661. DOI: 10.7589/2016-11-249.
27. Anthony SJ, Islam A, Johnson C, Navarrete-Macias I, Liang E, Jain K, Hitchens PL, Che X, Soloyvov A, Hicks AL, Ojeda-Flores R, Ulrich W, Rostal MK, Epstein JH, Petrosov A, Garcia J, Haider N, Wolfe N, Goldstein T, Morse, SS, Rahman M, Mazet J, Daszak P, Lipkin WI. (2015) Non-random patterns in viral diversity. **Nature Communications** 6(8147):1-7. DOI: 10.1038/ncomms9147.
28. Lee M, Rostal MK, Hughes T, Griffiths A, Harden M, Rovie-Ryan J, Sitam F, Basir M, Epstein J, Daszak P. (2015) Macacine Herpesvirus 1 (B virus) in wild-caught long-tailed macaques (*Macaca fascicularis*) following capture and transport in Malaysia. **Emerging Infectious Diseases** 21(7):1107-1113. DOI: 10.3201/eid2107.140162.
29. Olival KJ, Dittmar K, Bai Y, Rostal MK, Lei BR, Daszak P, Kosoy M. (2015) Bartonella spp. in a Puerto Rican bat community. **Journal of Wildlife Diseases** 51(1):274-278. DOI: 10.7589/2014-04-113.
30. Sotomayor-Bonilla J, Chaves A, Rico-Chávez O, Rostal MK, Ojeda-Flores R, Salas-Rojas M, Aguilar-Setien A, Ibáñez-Bernal S, Barbachano-Guerrero A, Gutiérrez-Espeleta G, Aguilar-Faisal JL, Aguirre AA, Daszak P, Suzán G. (2014) Dengue virus in bats from southeastern Mexico. **The American Journal of Tropical Medicine and Hygiene** 91(1):129-131. DOI: 10.4269/ajtmh.13-0524.
31. Anthony SJ, Ojeda-Flores R, Rico O, Navarrete-Macias I, Zambrana-Torrelio C, Rostal MK, Epstein J, Tipps T, Liang E, Sanchez-Leon M, Sotomayor J, Aguirre AAA, Ávila R, Medellín RM, Goldstein T, Suzán G, Daszak P, Lipkin WI. (2013) Coronaviruses in bats from Mexico. **Journal of General Virology** 94(Pt 5):1028-1038. DOI: 10.1099/vir.0.049759-0.
32. Quan P, Firth C, Conte J, Williams S, Zambrana-Torrelio C, Anthony SJ, Ellison JA, Gilbert AT, Kuzmin IV, Niezgoda M, Osinubi MOV, Recuenco S, Markotter W, Breiman R, Kalemba L, Malekani J, Lindblade KA, Rostal MK, Ojeda-Flores R, Suzan G, Davis LB, Blau DM, Ogunkoya AB, Alvarez Castillo DA, Moran D, Ngam S, Akaibe D, Agwanda B, Briese T, Epstein JH, Daszak P. Rupprecht CE, Holmes CE, Lipkin WI. (2013) Bats are a major natural reservoir for hepaciviruses and pegiviruses.

Proceedings of the National Academy of Sciences 110(20):8194-8199. DOI: 10.1073/pnas.1303037110.

33. Rostal MK, Olival K, Loh E, Karesh WB. (2013) Wildlife: The need to better understand the risks and linkages. **Current Topics in Microbiology and Immunology** 365:101–125. DOI: 10.1007/82_2012_271. PMID: 23117192.
34. Loh EH, Murray KA, Zambrana-Torrelio C, Hosseini PR, Rostal MK, Karesh WB, Daszak P. (2013) Ecological approaches to studying zoonotic diseases. **Microbiology Spectrum**. 1(3):OH-2009-2012. DOI: 10.1128/microbiolspec.OH-0009-2012.
35. Smith K, Loh E, Rostal MK, Zambrana C, Daszak P. (2013) Pathogens, pests and economics: Drivers of honey bee colony declines and losses. **EcoHealth**. 10(4):434–445. DOI: 10.1007/s10393-013-0870-2.
36. Rostal MK, Evans A, Solberg E, Arnemo J. (2012) Hematology and serum chemistry reference ranges of free-ranging moose (*Alces alces*) in Norway. **Journal of Wildlife Diseases** 48(3):548-559. DOI: 10.7589/0090-3558-48.3.548.
37. Epstein J, Zambriski J, Rostal MK, Heard D, Daszak P. (2011) Comparison of intravenous medetomidine and medetomidine/ketamine for immobilization of free-ranging variable flying foxes (*Pteropus hypomelanus*). **PLoS ONE** 6(10): e25361. DOI: 10.1371/journal.pone.0025361.
38. Rostal MK, Evans A, Akoolo L, Wakhule L, Macharia J, Breiman R, and Njenga K. (2010) Identification of potential vectors of and detection of antibodies against Rift Valley fever virus in livestock during interepizootic periods. **American Journal of Veterinary Research** 71(5):522-526. DOI: 10.2460/ajvr.71.5.522.
39. Evans A, Gakuya F, Paweska JT, Rostal MK, Akoolo L, Van Vuren P, Manyibe T, Macharia J, Ksiazek T, Feikin D, Breiman R, Njenga K. (2008) Prevalence of antibodies against Rift Valley fever virus in Kenya wildlife during an inter-epidemic period. **Epidemiology & Infection** 136(9):1261-9. DOI: 10.1017/S0950268807009806.

Books:

40. Aguirre A, Rostal MK, Zimmerman B, Keefe T. (2012) Epidemiologic investigations of infectious pathogens in marine mammals: The importance of serum banks and statistical analysis. **New Directions in Conservation Medicine: Applied Cases of Ecological Health**. Aguirre A, Ostefeld R and Daszak P. (eds) Oxford University Press New York, NY pp 563-575.

Non-peer reviewed:

1. Schwantes C, Teigen J, Guevarra E, Marchiori D, Rostal M (2024). **ohcleandat: One Health Data Cleaning and Quality Checking Package.** R package version 0.2.3, https://ecohealthalliance.github.io/ohcleandat/. I devised a system for data quality assurance and cleaning that integrates automated and manual review of flagged issues using a validation log and is based on tenets of reproducible science.
2. Bodenham R, Rostal MK, Claxton JK, Cleaveland S, Karesh WB, Kayaga R, Lankester F, Mmbaga BT, Mramba F, Shao E, Teigen J, Virhia J. (2022) **Diseases Spread by Ticks**. We developed this informational booklet to hand out to the public in northern Tanzania and is available in English or Swahili. DOI: 10.13140/RG.2.2.26227.95526.
3. Rostal MK, Msimang V, Bagge W, Anyamba A, Cordel C, Kemp A, Lubisi A, Thompson PN, Machalaba C, Paweska JT, Weepener H, Karesh WB. (2020) **Diseases Spread by Mosquitoes and Ticks**. The Free State and Northern Cape South Africa version is available in English, Afrikaans and Sesotho. DOI: 10.13140/RG.2.2.11128.46085. and the KwaZulu-Natal version is available in English and isiZulu. DOI: 10.13140/RG.2.2.17839.34722.

4. Rostal MK*, Uhart M, Grillo T, Karesh, WB. (2020) **Guidelines for Working with Free-Ranging Wild Mammals in the Era of the COVID-19 Pandemic**. Available on the Wildlife Health Specialist Group website. *Authors not listed on the document
5. PREDICT Field Sampling Guides:
    - Epstein J, LeBreton M, Rostal MK, and the PREDICT One Health Consortium. (2017) **Bat Sampling Methods**. Available here.
    - LeBreton M, Epstein J, Rostal MK, Gutiérrez LJ, Uhart, M and the PREDICT One Health Consortium. (2017) **Rodent Sampling Methods**. Available here.
6. Msimang V, Rostal M, Machalaba C, Porter V, Kemp A, Cordel C, Kok D, Grobbelaar A, Jansen van Vuren P, Rossouw J, Karesh W, Paweska J. (2016) **Rift Valley Fever and Other Zoonotic Diseases**. Informational booklet written for the public and available in English or Afrikaans. DOI: 10.13140/RG.2.2.23082.22728.
7. Rostal MK, Suzan G, Sotomayor-Bonilla J, Rico O (2015) **Monitoreo de la Biodiversidad y la Conservación con un Enfoque Ecosistémico**. Biodiversity and health monitoring guide available in Spanish. DOI: 10.13140/RG.2.2.15322.76488.
8. Rostal MK, Epstein JH, Hughes T, Lee J, Lee M, Karesh WB, Goossens B, Sipangkui R, Ramirez D, Benedict L, Nathan SKSS. (2014) **Wildlife Health Surveillance and Monitoring Program in Sabah: Bornean Apes**. A literature review and monitoring guide with Stoplight Hazard Assessments for gibbons and orangutans. Available online.
9. Rostal MK. (2013) **Herpes B**. In J. E. Napier, K. C. Gamble (eds): Infectious Diseases of Concern to Captive and Free Ranging Animals in North America, 2nd ed. Infectious Disease Committee, American Association of Zoo Veterinarians, Yulee, Florida. 374.

RESEARCH SUPPORT:

Total grants awarded on which I am the PI or co-PI:	**$15,742,517**
An Open Source Framework for Rift Valley Fever Forecasting Wellcome Trust (Ross) Expand a prediction system developed for South Africa that integrates environmental and livestock factors to predict risk of RVF outbreaks across Africa. Role: Co-PI	10/01/22-9/30/27 $675,599
Workshop Training to Support the Development of a Harmonized, One Health Antimicrobial Resistance Surveillance System Fleming Foundation subcontracted by ICAP, Columbia University (Rostal) Developed a series of workshops on epidemiological surveillance methods, One Health, AMR surveillance and WHONET tutorial for public and veterinary health officers in Eswatini.	9/6/20-6/30/21 $57,836
Joint Proposal to Support Local biosurveillance and Biosecurity at TVLA Centre for Military Medicine, Republic of Finland (Makondo) To purchase additional laboratory equipment for the CCHF project at the partner lab at the Tanzania Veterinary Laboratory Agency-Arusha Laboratory. Role: Co-PI	2/15/21-12/31/22 €54,800
Crimean-Congo Hemorrhagic Fever (CCHF): Reducing an Emerging Health Threat in Tanzania DTRA, (Rostal) HDTRA1-20-1-0018 The primary goals of this Tanzania-based project are: 1. Baseline assessment of CCHF virus (CCHFV) seroprevalence in people, cattle and small mammals and CCHFV presence in ticks; 2. Build up capacity in Tanzania to increase clinical awareness and diagnostic capacity for	6/30/20-6/29/25 $4,995,106

CCHFV and morphological identification of ticks; 3. Enhance One Health partnerships and develop policy recommendations.

Strengthening Bangladesh's Capacity to Detect and Prevent Viral Outbreaks 5/29/20-5/28/21 $25,000
Conservation, Food and Health Foundation, (Epstein)
Conducted a workshop in Bangladesh on a One Health approach to investigating highly pathogenic avian influenza outbreaks in live-bird markets and in wild bird populations (theoretical and practical sessions). Developed an infographic to help people purchase healthy birds to reduce zoonotic pathogen transmission.
Role: Key Personnel

Reducing the Threat of Rift Valley Fever (RVF): Ecology, Epidemiology and Socio-Economics DTRA, HDTRA1-19-0033 (Karesh) 8/15/19-8/14/24 $4,989,014
The primary goals of this South Africa-based project are: 1. Examine long-term immunity and infection dynamics in a cohort of sheep associated with longitudinal surveillance in mosquitoes; 2. Assess the seroprevalence of RVF virus in people and livestock in a potential hyperendemic system; 3. Conduct the first One Health economic estimate of the true cost of RVF outbreaks; 4. Develop an early warning system for RVF, which will sustainably be supported by a government partner; 5. Support diagnostic and modeling capacity in South Africa.
Role: Co-Investigator

One Health Emergency Vehicle, The Samuel Freeman Charitable Trust (Karesh) 4/10/19-8/10/19 $28,500
Support One Health research through equipment purchases.
Role: Project Manager

EcoHealthNet 2.0: A One Health Approach to Disease Ecology Research and Education, NSF (Epstein) 9/1/16-8/30/21 $499,897
Research Coordination Network for students through annual workshops and research experiences.
Role: Senior Personnel

PREDICT 2, USAID Emerging Pandemic Threats AID-OAA-A-14-00101 (Mazet) 10/1/15-9/30/19 $110,000,000
PREDICT 2 worked in 30 countries (EHA led 10 of these) to: 1. Build capacity for One Health surveillance for emerging viruses; 2. Discover and characterize new viruses; 3. Assess and predict the risk of viral spillover at different interfaces; 4. Respond to outbreaks of EIDs and unknown pathogens.
Roles: EHA Surveillance Coordinator; EHA Outbreak Coordinator

Understanding Rift Valley Fever in the Republic of South Africa, DTRA HDTRA1-19-0033 (Karesh) 5/28/14-5/27/19 $4,936,359
This South Africa-based project's goals were: 1. Assess the population dynamics of RVF virus mosquito vectors in a known epidemic region; 2. Identify environmental drivers of vector populations; 3. Evaluate exposure to RVF virus over three years in livestock at the population level and in individual sheep and people; 4. Estimate the seroprevalence of RVFV antibodies in wild ruminants.
Role: Co-Investigator

Ecosystems Approach for Monitoring Biodiversity and Conservation USFW 4/28/14-6/30/15 $29,988

Wildlife without borders, F14AP00269 (Rostal)
Conducted a biodiversity assessment and endangered species health conservation training program for rangers, biologists and managers from reserves and parks in Chihuahua State, Mexico.

Hotspots for Leptospirosis: Historic, current and future spatio-temporal dynamics of leptospirosis in the US, Zoetis, (Daszak) 6/26/14-12/31/14 $200,000
Identified hotspots of leptospirosis in the continental USA; 2. Determined environmental or socioeconomic drivers of canine leptospirosis hotspots; 3. Conducted a time series analysis to analyze past occurrence of leptospirosis and forecast future cases in the U.S.
Role: Research Scientist

Deep Forest, The Samuel Freeman Charitable Trust, (Rostal) 5/22/13-5/21/14 $25,000
Support One Health research through equipment purchases.

Development of a Great Ape Health Unit in Sabah, Malaysia, USFWS, F12AP01117 (Epstein) 9/13/12-12/31/14 $44,499
Project goals included: 1. Establish a Wildlife Health Unit within the Sabah Wildlife Department and develop a Wildlife Health Monitoring and Surveillance Program; Conduct a Stoplight Hazard Assessment for gibbons and orangutans in Sabah; 3. Conduct viral pathogen discovery and surveillance in great apes.
Role: Senior Personnel

PREDICT - Wildlife SMART Surveillance, USAID Emerging Pandemic Threats, GHN-A-00-09-00010-00 (Mazet) 10/1/09-09/30/14 $90,000,000
The primary goal was to monitor for and increase local capacities in geographic “hot spots” to identify the emergence of new infectious diseases in high-risk wildlife, that could pose a major threat to human health.
Role: EHA Latin American Regional Coordinator

RESEARCH DATA MANAGEMENT:

Data management and integration

The large One Health programs I lead have very diverse data types, collection and cleaning needs. For example, the Understanding Rift Valley Fever in South Africa and the Reducing the Threat of Rift Valley Fever (RVF): Ecology, Epidemiology and Socio-Economics projects represented 10 years of data collection from the fields of epidemiology, entomology, behavioral risk, socioeconomics, vegetation ecology, soil sciences, climatology and laboratory results. In total, this resulted in 71 distinct datasets that were either from longitudinal or cross-sectional studies. I initiated the system to validate the data (see below) and integrate and archive the data. Using GitHub to process data from Airtable, Google sheets, Open Data Kit (ODK) and files saved to Dropbox, I developed a system to output a set of final, clean data for the project team to use and which automatically updates if additional cleaning is conducted.

Data quality and assurance

I initiated and led the development of an R package, ohcleandat (One Health cleaning and data management system). To support reproducibility, we used a targets workflow using the targets package (all in the R programming language) with the mechanics of ETL (Extract, Transform and Load) largely handled by the ohcleandat R package to manage the significant data repository, package. The underlying philosophy of the ETL process is the original data

are only lightly modified while members of the project team make decisions about what data require cleaning and how they are to be cleaned. This is achieved by maintaining a validation log that keeps a record of all changes made and automates the process once the reviewer indicates a change must be made.

OTHER AWARDS:

Dr. J Arthur Meyers Endowment for International Experience in Public Health, University of Minnesota 2006
Funding to support Master of Public Health thesis research

JUDD Fellowship in the School of Public Health, University of Minnesota 2006
Funding to support Master of Public Health thesis research

Merck Merial Summer Scholars Program, University of Minnesota 2006
Funding to support Rift Valley fever virus research in Kenya

Dean of the College Round Table Thesis Research Fund, Princeton University 2002
Funding to support senior thesis research in Mpala, Kenya

H. Hamilton Hackney '53 Senior Thesis Research Fund, Princeton University 2002
Funding to support senior thesis research in Mpala, Kenya

TRAININGS GIVEN:

- I have trained over 317 people from more than 12 countries across Africa, Asia and Latin America.
- Surveillance and Prevention of Emerging Infectious Diseases from Wildlife
    - Workshop given in: Mexico May 3-4, 2010; Brazil May 25-26, 2010, and August 12-13, 2012; India (including colleagues from Bangladesh) July 26-30, 2010; Malaysia August 8-14, 2010; Colombia August 23-25, 2010; Bolivia September 14-16, 2010; Indonesia January 12-17, 2012, Jordan July 17-20, 2016
    - Includes sessions on animal safety, bat and rodent capture, restraint and sample collection and handling, use of PPE, team member safety, zoonotic diseases, serum separation, laboratory safety, packing and shipping samples, disinfection processes and necropsy.
- Disease surveillance in Rhesus macaques, Zoonotic diseases and biosafety, given in Bangladesh on August 2-7, 2015, and March 24-29, 2017
- Monitoreo de la biodiversidad y la conservación con un enfoque Ecosistémico (Biodiversity and conservation monitoring with a focus on ecosystems) in Janos Mexico, given March 2-5, 2015
    - Included lectures and wet labs on EcoHealth and conservation medicine, zoonotic diseases, PPE, collecting biological samples from mice, importance of biobanking, and necropsy.
- Rift Valley Fever One Health Team Training in Bloemfontein South Africa, given October 5-6, 2015, and May 3-5, 2017
    - Includes lectures and wet labs on Introduction to RVF, overview of project protocols, protocol on arrival on the farm, specific questionnaire training, ethics of working with animals, field team member safety, animal safety and handling
- Crimean-Congo hemorrhagic fever (CCHF) project field team refresher training: human, cattle, tick and small mammal sampling in Arusha, Tanzania March 7-10, 2023
    - This included lectures and wet labs on: introduction to CCHF, a One Health team and approach, overview of full sampling strategy, IRB study protocol and human

sampling SOP, Ethics concerning working with human participants, human sample collection, field safety, psychological safety, IACUC training, cattle sampling, field safety and zoonoses, PPE and disinfection, small mammal capture, release and sampling, tick sampling.

- Epidemiology workshop to support the development of a veterinary antimicrobial resistance surveillance system given virtually to participants in Mbabane, Eswatini November 16-19, 2020.
    - This included lectures and computer-based exercises on: introduction to epidemiology, disease surveillance systems, power analyses for pathogen detection and prevalence estimates, data management, Excel tutorial, cleaning data and reproducibility, interpreting diagnostic results, introduction to prevalence and confidence intervals, identify and respond to outbreaks, epidemic curves, risk factor analysis.
- A One Health workshop to support the development of a harmonized, One Health antimicrobial resistance surveillance system given virtually to participants in Mbabane, Eswatini 11/20/2020
    - This included lectures on: Introduction to One Health, One Health and AMR, Evidence for One Health, The role of health workers and veterinarians in One Health, One Health applications - outbreak investigation, understanding zoonotic pathogen ecology.
- Antimicrobial Resistance Surveillance Workshop was given virtually to participants in Mbabane Eswatini on September 14-16, 2021.
    - This included lectures computer-based exercises in WHONET on: Surveillance data quality assurance, understanding bias in surveillance data, introduction to isolate analysis, identifying multidrug resistance, cumulative antimicrobial susceptibility analysis, using SaTScan for cluster analysis, One Health calculations of AMC and AMU: The veterinary side, visualizing surveillance data.
- RVF Socioeconomic Research Training in Pretoria South Africa on August 1, 2023
    - This included a lecture on ethics concerning working with human participants
- Programs that I managed have supported and additional 176 people through workshops lead by other team members.
    - Four medical entomology workshops in South Africa, given June 8-12, 2015, June 19-23, 2017, April 8-13, 2018, and March 27-31, 2023 (45 participants)
    - RVF Refresher Training Human Field Work in Bloemfontein, South Africa Augst 30-31, 2018 (4 participants)
    - One Health Approach to Outbreak Investigation: Avian Influenza as a Case Study workshop, in Dhaka, Bangladesh on December 6-10, 2020 (20 participants)
    - CCHF Field Team Human Participant Training in Tanzania September 13-15, 2021 (4 participants)
    - CCHF Field Team Small Mammal Training in Serengeti Tanzania November 27-December 4, 2021 (8 participants)
    - CCHF Field Human and Cattle Sampling Training in Arusha Tanzania January 10-12, 2022 (6 participants)
    - RVFV One Health Team Training in South Africa, June 13-17, 2022 (4 participants)
    - Crimean Congo Haemorrhagic Fever Virus Diagnostics Training Course in Arusha, Tanzania on November 28-December 2, 2022 (16 participants)
    - Crimean Congo Haemorrhagic Fever Clinician Training Workshop in Moshi, Tanzania on March 27-30, 2023 (12 participants)
    - One Health Economics Mini-Congress in Pretoria South Africa, November 15-16, 2023 (53 participants in person, >500 streamed it live online)

- CCHF project follow-up serosurvey training, Karatu Tanzania June 10, 2024 (3 participants)

GUEST LECTURES AND PRESENTATIONS TO STUDENTS

- Rostal. "Ecosystems and Health: Searching for Emerging Viruses." **Congrès Armand-Frappier, Institut National de la Recherche Scientifique** Estérel Quebec Canada on November 18, 2011.
- Rostal. "Agricultural intensification and management: The effect on disease dynamics of emerging infectious diseases." **EcoHealthNet Workshop, University of Minnesota** Minneapolis, MN on June 20, 2013.
- Rostal. "One Health in Practice: Understanding Rift Valley Fever in the Republic of South Africa." **EcoHealthNet Workshop, Tufts University** Boston, MA on June 2, 2015.
- Rostal. "Risks and Drivers of Emerging Infectious Diseases and Development" **Sustainable Development Course, Columbia University** New York, NY on November 28, 2016.
- Rostal. "One Health Approach to Understanding the Dynamics of Emerging Infectious Diseases" **Ecology & Evolution Seminar Rutgers University** New Brunswick, NJ on December 1, 2016.
- Rostal. "One Health in Action: A One Health Approach to Understanding Rift Valley Fever" **One Health Seminar for School of Public Health Johns Hopkins University** Baltimore, MD on December 12, 2016.
- Rostal. "A One Health Career." **Chemical Biology Careers Presentation, Chemical Biology Training Program, University of Kansas**, Virtual presentation on October 24, 2017.
- Rostal. "Risks and Drivers of Emerging Infectious Diseases and Development." **Sustainable Development Course, Columbia University** New York, NY on November 27, 2018.
- Rostal. "Epidemiology of Rift Valley Fever Virus in South Africa: Assessing Herd Immunity, Viral Persistence and Drivers of Epizootics in Livestock." **University of Glasgow**, Glasgow, UK on December 12, 2019.
- Rostal. "Public Health in an Age of Pandemics." **Science Policy Course Colorado State University** Virtual presentation on April 28, 2020.
- Rostal. "Understanding Rift Valley Fever Using a One Health Approach." **Au Sable Institute of Environmental Studies** Virtual presentation on July 22, 2020.
- Rostal. "PREDICTing Emerging Infectious Diseases." **Au Sable Institute of Environmental Studies** Virtual presentation on August 10, 2020.
- Rostal. "Understanding Rift Valley Fever using a One Health Approach." **Biology and Human Concerns: Emerging Infectious Diseases Course, Transylvania University** Virtual presentation on October 14, 2020.
- Rostal. "Understanding Rift Valley Fever using a One Health Approach." **Program in Ecology, Evolution, and Conservation, University of Illinois at Urbana-Champaign** Virtual Presentation on October 21, 2020.
- Rostal. "Understanding Rift Valley Fever using a One Health Approach." **Ecology, Evolutionary and Environmental Biology Seminar Series Columbia University** Virtual presentation on February 2, 2021.
- Rostal. "Understanding Rift Valley Fever using a One Health Approach" **Biology and Human Concerns: Emerging Infectious Diseases Course, Transylvania University** Virtual presentation on May 12, 2021.
- Rostal. "One Health Aspects of Study Design." **EcoHealthNet Workshop** Virtual presentation and panel discussion on June 14, 2021.

- Rostal. “One Health Approach to Emerging Infectious Diseases: Rift Valley Fever.” **Ecology of Infectious Diseases Course Columbia University**, New York NY on April 4, 2023.
- Rostal. “Emerging Infectious Disease Research Using a One Health Approach” **Ecology, Evolution and Environmental Biology Freshman Seminar Columbia University** on April 5, 2023.
- Rostal. Panelist on **Entomological Society of America Early Career Professionals' Webinar Series** on December 11, 2023.

STAKEHOLDERS’ AND PARTNERS’ MEETINGS ORGANIZED

- I have organized and hosted seven in-person and five virtual partners’ and stakeholders’ meetings in Tanzania and South Africa. These meetings brought together people from local and national government, academia, and nongovernmental organizations that worked in fields ranging from vegetation ecology to wildlife health to public health. Through this mechanism over 550 people have been informed about our research and had the opportunity to provide feedback during discussion session.
  - In-person meetings that were full day symposiums (approximately 10 presenters) to share our research results and get feedback to ensure our programs align with local needs and synergize with ongoing local initiatives.
    - In South Africa, I organized and facilitated six in-person meetings that averaged 45 participants from 20 institutions.
    - In Tanzania I organized and facilitated one in-person meeting that had 74 participants from 26 institutions.
  - During the COVID-19 pandemic, I organized virtual meetings that were shorter webinars symposiums (approximately 6 presenters) to share our research results.
    - In South Africa, I’ve organized and facilitated three virtual meetings that averaged 50 participants from 20 institutions.
    - In Tanzania, I’ve organized and facilitated three virtual meetings that averaged 30 participants from 12 institutions.

CONFERENCE PRESENTATIONS:

RVF Gap Analysis and Countermeasures Assessment Workshop hosted by the USDA — 2024, Pretoria, South Africa
Emergence of Vector-Borne Zoonotic Diseases
Oral Presentation: **M. K. Rostal**

IAEA International Symposium on Sustainable Animal Production and Health — 2021, Virtual
The role of wildlife in the emergence and spread of zoonotic diseases
Oral Presentation: **M. K. Rostal**

International One Health Congress — 2020, Virtual
Interepidemic RVFV seroconversions in people and animals
Oral Presentation: **M. K. Rostal*,** V. Msimang, C. Cordel, P. Thompson, P. Jansen van Vuren, N. Ross, S. Cleaveland, L. Matthews, D. Hayden, J. T. Paweska, W. B. Karesh

International One Health Congress — 2018, Saskatoon, Canada
Integrating Ecosystem Approaches to Health: A One Health Investigation of Rift Valley Fever Virus
Oral Presentation: **M. K. Rostal*,** C. Machalaba, N. Ross, J. T. Paweska, W. B. Karesh

American Public Health Association Meeting — 2017, Atlanta, GA
Rift Valley Fever virus: Understanding and reducing risk through a One Health Approach
Oral Presentation: **M. K. Rostal*,** C Machalaba, JT Paweska, WB Karesh

International Wildlife Disease Association Conference — 2017, San Cristobal, Mexico
A Multispecies Systems Moderate the Effects of Rift Valley Fever Epidemiology in Single Species Systems
Oral Presentation: **M. K. Rostal*,** N Ross, L Matthews, D Haydon, S Cleaveland, WB Karesh

International Wildlife Disease Association Conference — 2016, Cortland, NY
A One Health Approach to an Epidemiological and Ecological Understanding of Rift Valley Fever Virus
Oral Presentation: **M. K. Rostal*,** C. Machalaba, N. Ross, V. Msimang, A. Kemp, A. Anyamba, C. van Huyssteen, R., P. van Vuren, C. Cordel, J. T. Paweska, W. B. Karesh

ASM Biodefense and Emerging Diseases Research Meeting — 2014, Washington D. C.
Approaches to understanding the ecology of herpes B virus in nature
Oral Presentation: **M. K. Rostal***, A. Griffiths, M. Lee, T. Hughes, S. J. Anthony, A. Islam, M. Harden, L. Avena, P. Daszak, J. H. Epstein

American Society of Tropical Medicine and Hygiene 62nd Annual Meeting — 2013, Washington D. C.
The Contribution of Herd Immunity to the Epidemic Cycles of Rift Valley Fever Virus in South Africa
Poster Presentation: **M. K. Rostal***, W. Karesh, E. Gardner, A. Anyamba and P. Hosseini

International Congress on Pathogens at the Human Animal Interface — 2013, Porto de Galinhas, Brazil
PREDICTing viral diversity along landscape disturbance in Mexico and Brazil
Oral Presentation: **M. K. Rostal***, C. Zambrana, K. Murray, S. Anthony, G. Suzan, R. Medellín, E. H. Loh, O. Rico, R. Ojeda, M. Romero and P. Daszak

International Wildlife Disease Association Conference — 2013, Knoxville, TN
USAID PREDICT wildlife surveillance in Mexico
Oral Presentation: **M. K. Rostal*,** R. Medellín, G. Suzán, O. Rico, R. Ojeda, A. A. Aguirre, J. E. Epstein, P. Daszak and S. J. Anthony

Society for Conservation Biology's 26th International Congress for Conservation Biology — 2013, Baltimore, MD
USAID PREDICT wildlife surveillance in Mexico and Brazil
Oral Presentation: **M. K. Rostal*,** R. Medellín, G. Suzán, M. Romero-Solorio, S. J. Anthony, A. A. Aguirre, J. E. Epstein, P. Daszak and J. Mazet

International Wildlife Disease Association Conference — 2012, Lyon, France
Drivers of Honeybee Colony Declines and Losses
Oral Presentation: **M. K. Rostal***, K. Smith, E. H. Loh, and P. Daszak

2º Congreso Internacional en Ecología de Enfermedades y Medicina de la Conservación Kalaankab — 2011, Querétaro, Mexico
PREDICTing the emergence of zoonotic diseases in Mexico
Oral Presentation: **M. Rostal***

Congrés Armand-Frappier — 2011, Estérel, Canada
Ecosystems and Health – Searching for Emerging Viruses
Oral Presentation: **M. Rostal*** and W. Karesh; Keynote speaker

International Wildlife Disease Association Conference — 2010, Iguazu, Argentina
The Role of Livestock Immunity in Periodic Resurgence of Rift Valley Fever
Poster Presentation: P. R. Hosseini*, P. B. H. Formenty, **M. Rostal**, and P. Daszak

International Wildlife Disease Association Conference — 2008, Edmonton, Canada
Rift Valley Fever Virus Surveillance in Kenyan Wildlife
Oral Presentation: **M. Rostal*,** A. Evans, F. Gakuya, J. Paweska, R. Breiman, and M.K. Njenga

International Meeting on Emerging Diseases and Surveillance — 2007, Vienna, Austria
Rift Valley Fever Virus Seroprevalence in Sheep Born Before and After the 1997-98 Epizootic in the Nakuru District of Kenya.
Poster Presentation: **M. Rostal***, A. Evans, L. Akoolo, L. Wakhule, J. Macharia, R. Breiman, and M.K. Njenga

International Meeting on Emerging Diseases and Surveillance — 2007, Vienna, Austria
Rift Valley Fever Virus Surveillance in Kenyan Wildlife
Poster Presentation: A. Evans*, **M. Rostal,** F. Gakuya, J. Paweska, R. Breiman, and M.K. Njenga

Minnesota Veterinary Medical Association Annual Meeting — 2007, Minneapolis, MN
Rift Valley fever virus in East Africa
Oral Presentation: **M. Rostal***, A. Evans, M.K. Njenga.

Northeastern Ecology and Evolution Conference — 2003, Rutgers, NJ
A Study of the Effect Cattle Grazing Has on the Plains Zebra (Equus burchelli)
Poster Presentation: **M. Rostal***, T. Young, I. Fischhoff and D. Rubenstein

Senior Symposium — 2003, Princeton, NJ
A Comparison of the Feeding Behaviors of Equids and Cattle: A Study of Grassland Competition Between Cattle and Zebras and Donkeys
Oral Presentation: **M. Rostal***
*Indicates presenter

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

American Public Health Association — 2017

Wildlife Disease Association	2008-present
American Association of Wildlife Veterinarians	2005-present
American Society of Tropical Medicine and Hygiene	2013
American Veterinary Medical Association	2008-2018
American Association of Small Ruminant Practitioners	2008-2010
Washington Veterinary Medical Association	2008-2010
Student Chapter of the American Veterinary Medicine Association	2004-2008

PROFESSIONAL CONFERENCES ATTENDED:

International One Health Meeting	2018, 2020, 2024 Saskatoon, Canada; Virtual; Cape Town, South Africa
American Public Health Association	2017 Atlanta, Georgia
International Wildlife Disease Association Conference	2017, 2016, 2013, 2012, 2011, 2010, 2009, 2008 San Cristobal, Mexico; Cortland, NY; Knoxville, TN; Leon, France; Quebec City, Canada; Iguazu, Argentina; Blaine, WA & Edmonton, Canada
ASM Biodefense and Emerging Diseases Research Meeting	2014 Washington D. C., USA
American Society of Tropical Medicine and Hygiene 62nd Annual Meeting	2013 Washington D. C., USA
Second International Congress on Pathogens at the Human Animal Interface	2013 Porto de Galinhas, Brazil
American Association of Wildlife Veterinarians Annual Conference	2005, 2008 Omaha, NE & Edmonton Canada
International Meeting on Emerging Diseases and Surveillance	2007 Vienna, Austria
Minnesota Veterinary Medicine Association Annual Meeting	2005, 2007 St. Paul & Minneapolis, MN

American Association of Zoo Veterinarians Annual Conference — 2005, 2006 Omaha, NE & Tampa, FL

EcoHealth One Conference — 2006 Madison, WI

MEDIA COMMUNICATION AND OUTREACH:

For Girls in Science — 2012
Video interview by L'Oréal

Stoney Brook Risk Communication Training — 2015

Rift Valley Fever Project — 2017 & 2024
Video interview (2017) by EcoHealth Alliance url: https://youtu.be/lOw6r4ntxq0
Video interview (2024) by EcoHealth Alliance url: https://youtu.be/6CZDInh1Mhw

Rift Valley Fever in Wildlife — 2017
Three-piece article for Wildlife Ranching South Africa

Oral Presentation: **Rift Valley Fever: Preventing Costly Outbreaks** at a public event at the Cosmos Club in Washington D.C. on December 12, 2018, by **M. K. Rostal** and A. Anyamba. — 2018

Oral Presentation: **Rift Valley Fever: An EcoHealthy Approach to Preventing a Deadly Disease** at a public event at the Cosmos Club in Washington D.C. on *June 5, 2014,* by **M. K. Rostal.** — 2014

Oral Presentation: **Debunking the Myths: Science-Based Approaches to Understanding Frog and Honeybee Declines** at public events at the University Club in New York City and the Cosmos Club in Washington D.C. on June 4 & 5, 2012 by **M.K. Rostal**, P. Daszak, K. Olival. — 2012

Oral Presentation: **Applying One Health in Veterinary Medicine: From Epidemiology to Clinical Medicine** at the New York State Veterinary Medical Society Multi-Region Webinar on October 20th, 2021, by **M.K. Rostal** and M. Valitutto. — 2021

HONORS AND AWARDS:

Caleb Dorr Certificate – University of Minnesota — 2007, 2008
Pfizer Animal Health Award – University of Minnesota — 2007
Phi Zeta – Honor Society of Veterinary Medicine – University of Minnesota — 2007
Harold Wetterberg Foundation Scholarship – University of Minnesota — 2006, 2007
Augustus Searles Scholarship for Women – University of Minnesota — 2006, 2007, 2008
Caleb Dorr Scholarship – University of Minnesota — 2006
National Honors Society – University of Minnesota — 2006
Honor Society of Phi Kappa Phi – University of Minnesota — 2005
Art Lane '34 Award – Princeton University — 2003
Jack Smith Award – Princeton University — 2003
Wanda P. Sieja Coach's Award – Princeton University — 2003
All-Ivy Academic team – Princeton University — 2003
9th at NCAA Championships for Women's Foil – Princeton University — 2000, 2003
All-American NCAA Women's Fencing – Princeton University — 2000-01, 2003
All-Ivy Women's Fencing – Princeton University — 2000-01, 2003
3rd at NCAA Championships for Women's Foil – Princeton University — 2001
Ranked 10th in the United Sates Fencing Association Open Women's Foil — 2001

SUPERVISION AND MENTORSHIP:

External supervisor

○ Tracy Mtambo,	MSc,	University of Pretoria,	2023-present
○ Ray Kayaga,	PhD,	Nelson Mandela African Institution of Science and Technology,	2021-Present
○ Elichilia Shao,	PhD,	Kilimanjaro Christian Medical University College,	2021-Present
○ Sarah Price	MPH,	Columbia University,	2021-2022
○ David Vorbach	BA,	Columbia University	2021
○ Adriana Fratz	BA,	Columbia University,	2017-2018
○ Alisa Berg	DVM,	University of California, Davis	2017
○ Jessica Magenworth	MPH,	John's Hopkins University,	2017
○ Daniel Wang	BA,	Columbia University,	2015-2016

Mentored and/or supported as part of the programs I lead:

○ Judith Njau	MSc,	Kilimanjaro Christian Medical University College,	2023-present
○ Buliga Mujaga	MSc,	Kilimanjaro Christian Medical University College,	2023-present
○ Ester Lepere	MSc,	University of Glasgow,	2023-present
○ Hope Tshabala	MSc,	Tshwane University of Technology,	2023-present
○ Mahlatsi Makola	MSc,	University of Pretoria,	2021-2024
○ Takalani Makhanthisa	PhD,	University of Pretoria,	2020-present
○ Veerle Msimang	PhD,	University of Pretoria,	2017-2022
○ Zikhona Gqalaqha	MSc,	University of Pretoria,	2017-2021
○ Liesl de Boni	MSc,	University of Witwatersrand,	2017-2019
○ Kristan Mojapelo	MSc,	University of Pretoria,	2016-2019
○ Mariet Verster	MSc,	University of the Free State,	2015-2017
○ Yusuf Ngoshe	MSc,	University of Pretoria,	2015-2017
○ Alida Avenant	MSc,	University of Pretoria,	2015-2017

OTHER REARCH AND WORK EXPERIENCE:

- **Master's Thesis Research** — Summer 2006, Nairobi, Kenya
  US Centers for Disease Control and Prevention and University of Minnesota School of Public Health
  Supervisors: Marguerite Pappaioanou DVM, PhD, M.K. Njenga, BVM, PhD,
  Established a human hospital surveillance system for Rift Valley fever virus. Analyzed risk factors associated with seropositivity for antibodies against Rift Valley fever virus before an outbreak.

- **Senior Thesis Research** — Summer 2002, Mpala Kenya
  Princeton University and Mpala Research Center
  Supervisor: Dan Rubenstein, PhD
  Conducted field research to determine how the livestock grazing affects the behavior of zebras. Field experience included radio-tracking collared zebras and conducting behavioral research.

LEADERSHIP ACTIVITIES:

- **Institutional Leadership:**
  - ♦ Founding Senior Science Staff member, EcoHealth Alliance — 2020-present
  - ♦ Founding Diversity Equity and Inclusion member, EcoHealth Alliance — 2020-present
- **Student Leadership:**
  - ♦ Vice president of Conservation Medicine Collective — 2002-2003
  - ♦ President of Zoo, Exotic, Avian Wildlife Medicine Club — 2001-2002
- **Fencing:**
  - ♦ Captain of Princeton's women's fencing team — 2003
  - ♦ Women's Foil Squad Leader – Princeton University

RELEVANT SKILLS

Languages:

English (fluent)
Spanish (proficient)
Swahili (basic)

Data Analysis and Software:

R
ODK
GitHub
Microsoft Office: Word, Excel, PowerPoint, Word, Teams
Zoom
Airtable
Google Sheets