

BIOGRAPHICAL SKETCH

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NAME: Antoinette Marsh

eRA COMMONS USER NAME (credential, e.g., agency login): marsh.2061

POSITION TITLE: Associate Professor

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of California, Davis	B.A.	1987	Chemistry
University of California, Davis	M.S.	1991	Immunology
University of California, Davis	Ph.D.	1997	Immunology
The Ohio State University	J.D.	2007	Law

A. Personal Statement

I supervise the Diagnostic Veterinary Parasitology Laboratory at the OSU CVM which processes all the OSU VMC, Blood Bank and referral DVMs parasitology-related diagnostic samples. I am an instructor in the VM I, II and III curriculum covering topics related to parasitology, zoonotic disease liability, and research methods.

As an investigator, I have experience and a publication record in the area of the molecular identification and in vivo characterization of protozoal parasites (*Sarcocystis*, *Neospora*, *Toxoplasma*, *Hammondia* and *Cryptosporidium*). This includes development of reagents such as monoclonal antibodies and parasite strains as tools for investigational studies.

B. Positions

1997-98 Post-Doctoral Student, University of California, Davis
 1998-04 Assistant Professor, University of Missouri, Columbia
 2004 Research Scientists/Adjunct Assistant Professor/Research Scientist, The Ohio State University
 2015-2019 Assistant Professor, The Ohio State University
 2019-Present Associate Professor, The Ohio State University

C. Contributions to Science/Selected Peer-reviewed Publications (out of a total of 80).

Yee, H., A. Arruda, A. Rudinsky, C. Iazbik, L. Millward and **A.E. Marsh**. Risk factors and impact of COVID-19-related clinic closures on the detection of gastrointestinal parasites in dogs, a cross-sectional study. *Veterinary Parasitology: Regional Studies and Reports*, 2021. Dec;26:100647. doi: 10.1016/j.vprsr.2021.100647.

Shusterman, L., **A.E. Marsh**, P.H. Joyner, G. Habing. Detection of *Trichuris* eggs in feces and soil from giraffe (*Giraffacamelopardalis*) and other hoofstock enclosures under human care in the USA. *Internat J for Parasit: Parasites and Wildlife*, May 26;15:208-213. doi: 10.1016/j.ijppaw.2021.05.007.

Labriola J, R. Garabed, C. Sinclair, **A.E. Marsh**, Insights From Veterinary Disciplinary Actions in California 2017-2019. *Front Vet Sci*. 2021 Dec 23;8:786265. doi: 10.3389/fvets.2021.786265

Sobotyk, C., K.E. Upton, M. Lejeune, T.J. Nolan, **A.E. Marsh** et al., Retrospective prevalence of canine endoparasites analyzed across veterinary parasitology diagnostic laboratories, United States, 2018. *Parasites & Vectors*, 2021. 14:439. DOI: 10.1186/s13071-021-04960-7

Campbell BJ, **A.E. Marsh** AE, E.M. Parker, J.S. McCutcheon, F.L. Fluharty, A.J. Parker..The effects of protein supplementation and pasture maintenance on the growth, parasite burden, and economic return of pasture-raised lambs. *Transl Anim Sci*. 2021 Jun 29;5(3):txab113. doi: 10.1093/tas/txab113.

Ruppert S, Lee JK, Marsh AE. Equine Protozoal Myeloencephalitis associated with *Neospora caninum* in a USA captive bred zebra (*Equus zebra*). *Vet Parasitol Reg Stud Reports*. 2021 Dec;26:100620. doi: 10.1016/j.vprsr.2021.100620.

Giorda F., U. Romani-Cremaschi, **A. Marsh**, C. Grattarola, B. Iulini, A. Pautasso, K. Varello, E. Berio, P. Gazzuola, L. Marsili, C.E. Di Francesco, M. Gorla, F. Verna, T. Audino, S. Peletto, M. Caramelli, M. Fernández-Escobar, E. Sierra, A. Fernández, R. Calero-Bernal, C. Casalone. Evidence for unknown *Sarcocystis*-like infection in stranded striped dolphins (*Stenella coeruleoalba*) from the Ligurian Sea, Italy. *Animals (Basel)*. 2021 Apr 22;11(5):1201. doi: 10.3390/ani11051201

Long S.A., M. Carman, S. M. Reed, R. Jennings, **A.E. Marsh**. Comparative H-gal-GP and H11 specific antibody binding in equine cyathostomins. *Veterinary Parasitology*. 2020 Oct;286:109242. doi: 10.1016/j.vetpar.2020.109242.

Inpanbutr N., **A.E. Marsh**, M. Rhodes-DiSalvo, J.E. Richards, C. El-Khoury, C.V. Frasure, J. Reiswig, J. Mastay, J.M. Reddish, T. Motta. Using the Digital Platform ExamSoft in Veterinary Anatomy and Parasitology Assessments in Written and Laboratory Components. *Journal of Veterinary Medical Education*. 2020; 47:148-157

Long S.A., J. Rhinehart, J. Shrake, **A.E. Marsh**. Feasibility and comparative analysis of *Dirofilaria immitis* microfilaria freezing and fixation for student instruction and assessment of clinical parasitology skills. *BMC Veterinary Research*. 2020; 16:31

Hess, L., L.M. Millward, A. Rudinsky, E. Vincent, **A.E. Marsh**. Combination anthelmintic treatment for persistent *Ancylostoma caninum* ova shedding in greyhounds. *Journal of the American Animal Hospital Association*. 2019; 55:160-166.

William, B.M., C.A. Cleveland, G.G. Verocai, L. Swanepoel, K. D. Niedringhaus, K. L. Paras, Y. Nagamori, S. E. Little, A. Varela-Stokese, N. Nemeth, H. Wyrosdick, A. Tucker, L. Deali, D. Gauthier, S. Prouty, C. DeAngelo, **A. Marsh**, D. Piepgras, L. H. Cook, K. B. Milliren, J. S. Becker, C. Lyon, J. Clark, J. Stumph, M. M. Borst, K. L. Tucker, A. Ward, E. M. Baird, K. A. Burke, J. W. Camp, C. A. Davis, M. J. Yabsley, *Dracunculus* infections in domestic dogs and cats in North America; an under-recognized parasite? *Veterinary Parasitology: Regional Studies and Reports*, 2018; 13:148-155.

Van Hoy G., M. Carman, G. Habing, J. Lakritz, A. Hinds, A. Niehaus, R. Kaplan, **A.E. Marsh**. Safety and serological response to a *Haemonchus contortus* vaccine in alpacas. *Veterinary Parasitology*. 2018; 252:180-186.

Moreno-Torres K.I., D.M. Sinnott, B.A. Wolfe, **A.E. Marsh**, W.J.A. Saville, M. Moritz, R.B. Garabed. Risk of environmental exposure to small coccidia from wild canid feces in rural Ohio. *American Journal of Veterinary Research*. 2018; 79:1179-1187

Marsh, A.E., S.B. Chaney, D.K. Howe, W.J. Saville, and S.M. Reed. Small sarcocysts can be a feature of experimental infections with *Sarcocystis neurona* merozoites. *Veterinary Parasitology* 2017; 245:116-118.

DiGangi BA, C. Dworkin, J.W. Stull, J. O'Quin, M. Elser, **A.E. Marsh**, L. Groshong, W. Wolfson, B. Duhon, K. Broaddus, E.N. Gingrich, E. Swiniarski, E.A. Berliner. Impact of heat treatment on *Dirofilaria immitis* antigen detection in shelter dogs. *Parasites and Vectors* 2017; 10(Suppl 2):483:123-128.

Zitzer N.C., **A.E. Marsh**, M.J. Burkhard, M.J. Radin, M.L. Wellman, M. Jugan, V. Parker. Parasitemia due to *Sarcocystis neurona*-like infection in a clinically ill domestic cat. *Veterinary Clinical Pathology* 2017; 46(3):526-532.

Chaney, S.B., **A.E. Marsh**, S. Lewis, M. Carman, D.K. Howe, W.J. Saville, and S.M. Reed. *Sarcocystis neurona* manipulation using culture-derived merozoites for bradyzoite and sporocyst production. *Veterinary Parasitology* 2017; 238:35-42.

Sinnott, D, K. Moreno-Torres, B. Wolfe, R. Garabed, **A.E. Marsh**. Detection of *Hammondia heydorni* oocysts in wild and domestic canid feces. Molecular detection and differentiation of small coccidia in wild carnivore feces. *Veterinary Parasitology: Regional Studies and Reports* 2016; 6:31-34.

Marsh, A.E., S. Babcock. Legal implications of zoonotic disease transmission for Veterinary practices. *Veterinary Clinics of North America Small Animal Practice.*, 2015. 45:393-408.

Marsh, A.E. Paw and Order: Using animal DNA as forensic evidence is not yet ready for prime time. *Journal of Animal Law and Ethics* 2009; 3:53-84.

D. Additional Information: Research Support and/or Scholastic Performance

Funding (listed for 2021-22):

2022-2024 Analysis of detection and genotyping of *Giardia*, an elusive zoonotic protozoa

PI: Marsh, A. (\$12,474; *OSU CVM canine funds*)

2021-2023 Understanding and stopping persistent *Ancylostoma caninum* egg shedding in chronic shedders.

PI: Marsh, A. (\$12,474; *OSU CVM canine funds*)

2021-2022 *Ancylostoma caninum* drug resistance and prevention of chronic shedders.

PI: Marsh, A. (\$25,600; Duncan Alexander Funding)

2020-2022 Standard of Care Legal Cases: Where do we stand based on current evidence?

PI: Marsh, A., CoPI: Garabed. (\$10,000; Stanton Foundation)

Prior funding as PI (within last five years):

2019-2020 Veterinary Parasitology Teaching and Applied Research. Duncan Alexander-Gift.

PI: Marsh, A.

2017-2018 Safety and efficacy of a commercial *Haemonchus contortus* vaccine (Barbervax®) in *ex-situ* nondomestic ruminants. Columbus Zoo/OSU Cooperative Research Grant. (\$10,509, Total Award) **PI:**

Marsh, A., Co-I: Love, D., Bapodra-Villaverde, P., Ramer, J.

2016 -2017 Safety and Efficacy of a *Haemonchus contortus* vaccine (Barbervax) in camelids. Alpaca Research Foundation. \$30,769 , Total Award) **PI: Marsh, A, Co-I: Lakritz, J, Kaplan, R, Smith, D.**