

# CURRICULUM VITAE

## Kathryn R. Dalton, Ph.D., V.M.D., M.P.H.

### PERSONAL DATA

Johns Hopkins University  
Bloomberg School of Public Health,  
Department of Environmental Health & Engineering

615 N. Wolfe Street, Baltimore, Maryland 21205  
W7034G office / W7704 & W7707 laboratory  
kdalton4@jhu.edu

### EDUCATION AND TRAINING

Postdoctoral Fellow	Current
Johns Hopkins School of Public Health Microbiome Bioinformatics and Exposures	
Ph.D.	2020
Johns Hopkins School of Public Health Environmental Epidemiology and Exposure Science	
Clinical Research Fellow	2017
Johns Hopkins School of Public Health Environmental Microbiology	
M.P.H.	2016
Johns Hopkins School of Public Health Infectious Disease	
V.M.D.	2013
University of Pennsylvania, School of Veterinary Medicine Veterinary Public Health	
B.S.	2008
SUNY Stony Brook University Biology and Anthropology	

### MEDICAL OR OTHER LICENSURE

Licensed veterinarian in Maryland, New Jersey, and Pennsylvania	2013
USDA veterinary accreditation:	
Maryland	2015
New Jersey	2013
Veterinary Medical Certification	2013

## PROFESSIONAL EXPERIENCE

Relief Veterinarian	2015-2019
Banfield Pet Hospitals in North Maryland region	
Provided veterinary preventative services, and other veterinary clinical duties	
Associate Veterinarian	2013-2015
Banfield Pet Hospital, Mount Laurel, New Jersey	
Provided veterinary preventative, general medicine, surgical and emergency services in an AAHA-certified three-doctor practice, was primary medical doctor and trained on-boarding doctors.	

## PROFESSIONAL ACTIVITIES

## SOCIETY MEMBERSHIP &amp; LEADERSHIP

Infectious Disease Society of America (IDSA)	2018-present
Society for Healthcare Epidemiology in America (SHEA)	2018-present
International Society for Environmental Epidemiology (ISEE)	2017-present
Humane Society Veterinary Medical Association	2015-present
American Veterinary Medical Association (AVMA)	2009-present
Maryland Veterinary Medical Association (MVMA)	2015-2019
American Public Health Association (APHA)	2015-2017

## CONSORTIUM ACTIVITIES

Mid-Atlantic Vector-borne Disease Inter-Agency Workgroup	2015-present
CDC / Maryland Department of Health Lyme Corp Outreach Group	2015-2017

## EDITORIAL ACTIVITIES

## PEER-REVIEW ACTIVITIES

Reviewed for the following journals:

American Journal of Infection Control  
 Environmental International  
 Zoonoses and Public Health

## HONORS &amp; AWARDS

IDweek2018 Kass Award	2018
IDweek2018 Oral Abstract Media Release and Press Conference Recognition	2018
Delta Omega Honors Society Poster Competition Runner Up Laboratory Science	2017
Department of Environmental Health Research Retreat Poster Award Runner Up	2017
Department of Environmental Health Sciences MPH Capstone Award	2016
FDA Center for Excellence in Regulatory Science and Innovation (CERSI) Award	2015
University of Pennsylvania School of Vet Medicine, Student Inspiration Award	2012

## PUBLICATIONS

The following link provides access to all published work:

All works:

<https://scholar.google.com/citations?user=UshXcZUAAAAJ&hl=en>

Currently indexed by PubMed:

<https://www.ncbi.nlm.nih.gov/myncbi/kathryn.dalton.1/bibliography/public/>

## JOURNAL ARTICLES (PEER-REVIEWED)

**Dalton KR**, Waite K, Ruble K, Carroll KC, DeLone A, Frankenfield P, Serpell J, Thorpe R, Morris DO, Agnew J, Rubenstein R, and Davis MF. Risks Associated with Animal-Assisted Intervention Programs: A Literature Review. *Complementary Therapies in Clinical Practice* 2020, May;39:101145. DOI: 10.1016/j.ctcp.2020.101145.

PrePrint version: medRxiv 2020.02.19.20025130.

DOI: 10.1101/2020.02.19.20025130.

**Dalton KR**, Rock C, Carroll KC, and Davis MF. One Health in Hospitals: How understanding the dynamics of people, animals, and the hospital built environment can be used to better inform interventions for antimicrobial-resistant Gram-positive infections. *Antimicrobial Resistance & Infection Control* 2020, June;9(78). DOI: 10.1186/s13756-020-00737-2. PMID: 32487220.

Leibler, J.H., **Dalton, K.**, Pekosz, A., Gray, G.C. and Silbergeld, E.K., 2017. Epizootics in industrial livestock production: preventable gaps in biosecurity and biocontainment. *Zoonoses and public health*, 64(2), pp.137-145. DOI: 10.1111/zph.12292

## PREPRINT PUBLICATIONS

**K.R. Dalton**; Spicer, K.; Ludwig, S; Clemons-Erby, D.; Green, T.; Rule, A.M.; Koehler, K.; McCormack, M.C.; Davis, M.F.; Evaluation of Field Sampling Techniques for Environmental Microbial Exposure: Assessing Efficacy and Feasibility. *bioRxiv* 2020.06.14.150722; DOI: 10.1101/2020.06.14.150722

Baron PA, Love DC, Ludwig S, **Dalton K**, Larsen J, Innes GK, and Heaney CD, Davis MF. Microbial food safety in the Maryland direct-to-consumer poultry supply chain. *bioRxiv* 643106. DOI: 10.1101/643106.

## TECHNICAL SKILLS

Proficiency in Programming Languages:

R

Unix / bash

Stata

Python

SAS

MATLAB

## PART II

## TEACHING

## CAPSTONE/MASTER'S THESIS ADVISEES

Kimberley Guyer, D.V.M., current M.P.H. student	2020-present
Julianna Nechin, current Sc.M. student (MMI)	2019-present

## SUMMER STUDENT ADVISEES

Sabrina Waugh (CO State SVM), veterinary student	2019
Zoë Johnson (MI State SVM), current M.H.S. student	2017

## RESEARCH ASSISTANTS

Peter Campbell (current medical student at UMBC)	2020-present
William Altekruze (current social work graduate student UMBC)	2020-present

## TEACHING ASSISTANTSHIP

One Health Tools to Promote & Evaluate Healthy and Sustainable Communities Johns Hopkins Bloomberg School of Public Health Course Faculty Instructor: Meghan F. Davis 3.0 credits, Fourth Term 2018, 2019 & 2020 Excellence in Teaching, based on student feedback *Assisted in course design, presented two lectures, and directed interactive group sessions	2018-present
Essentials of One Health Johns Hopkins Bloomberg School of Public Health Course Faculty Instructor: Meghan F. Davis 0.5 credits, First, Third & Fourth Terms Part of the "Cells to Society" public health curriculum	2019-present
Foundations of Occupational Health Johns Hopkins Bloomberg School of Public Health Course Faculty Instructor: Maureen Cadorette 3 credits, First Term	2018
Case Studies in Food Animal Production and Public Health Johns Hopkins Bloomberg School of Public Health Course Faculty Instructor: Keeve Nachmann 3 credits, Fourth Term	2017

## RESEARCH GRANT PARTICIPATION

## CURRENT GRANTS

No number	(Dalton)	2019-2020
Johns Hopkins ERC Identifying Occupational Health Benefits and Concerns of Key Stakeholders Regarding Hospital-Based Animal-Assisted Intervention Programs: A Pilot Study to Inform Program Implementation. \$10,000 <u>Role:</u> Principal Investigator <u>Main Grant Objective:</u> Conduct qualitative interviews on key stakeholders in hospital animal-assisted intervention programs in order to understand barriers and facilitators to program implementation as a stress-reduction mechanism in healthcare workers. <u>Principal Responsibilities:</u> As student PI, I designed the project, wrote for initial funding, submitted for IRB approval, hired and trained research assistants, conducted or supervised interviews, performed or supervised coded qualitative data analysis, and transcript finding into a manuscript for publication.		
R01HD097692	(Davis)	2018-2022
R01, Eunice Kennedy Shriver National Institute of Child Health & Development Clinical trial of a disinfectant intervention in therapy dogs to combat hospital-associated pathogens and promote sustainability of Animal-Assisted visitation programs \$1,857,348 <u>Role:</u> Postdoctoral Fellow Co-Investigator <u>Main Grant Objective:</u> Leadership of one independent aim, to assess holistic microbial community alterations during a hospital animal-assisted intervention program, and the effect of a chlorhexidine-based intervention on acquisition of hospital-associated pathogens and microbial communities by patients during AAI sessions via a multicenter randomized controlled trial <u>Principal Responsibilities:</u> Assist with overall study management for multicenter clinical trial, aid in study design, supervise and train sample collection and laboratory assessment, supervise or perform data management and data analysis on microbial community analysis, give presentations, prepare manuscripts.		

## PREVIOUS GRANTS

T42OH008428	(Agnew)	2018-2020
NIOSH Johns Hopkins Education and Research Center Training Award (T42) <u>Role:</u> PhD Candidate <u>Main Grant Objectives:</u> To conduct research in occupational health and safety. <u>Principal Responsibilities:</u> Training grant for academic and research support.		
No number	(Dalton)	2018-2019
American Kennel Club Canine Health Foundation <i>Clinician-Scientist Fellowship</i> \$12,000 <u>Role:</u> Principal Investigator <u>Main Grant Objective:</u> Provide support for protected time to conduct research to advance the human-animal bond, and human and canine health. <u>Principal Responsibilities:</u> Attend advance trainings in metagenomics, conduct One Health research, present findings at professional conferences and in peer-reviewed journals.		

- No number (Dalton) 2017-2018  
 JHSPH Center for a Livable Future Lerner Fellowship  
 \$28,750  
Role: PhD Student  
Main Grant Objectives: To conduct research in environmental safety and sustainability in our current food systems.  
Principal Responsibilities: Training grant for academic and research support.
- No number (Davis/Fanzo) 2017-2018  
 Johns Hopkins Practical Ethics Award  
*The law of unintended consequences: Will the implementation of California SB27 impact animal health and well-being?*  
 \$67,500  
Role: Student Investigator  
Main Grant Objectives: To characterize the immediate impact of SB27 on animal health and welfare and examine ethical trade-offs associated with the California law.  
Principal Responsibilities: conducted farmer interviews, assist with preparation of manuscripts.
- D15CA-802 (Chen) 2014-2015  
 Morris Animal Foundation  
*Animal Assistance Therapy: Ensuring animal health and program sustainability in the context of hospital-associated infections*  
 \$10,000  
Role: Study Coordinator  
Main Grant Objectives: To demonstrate whether a dog intervention to decontaminate fur during AAT visits can reduce transmission of HAIs between patients and animals.  
Principal Responsibilities: Study design, sample collection, laboratory and data analysis, manuscripts.
- No number (Dalton) 2015-2016  
 FDA CERSI Grant  
*The Science and the Prevention of Highly Pathogenic Avian Influenza*  
 \$10,000  
Role: Student Principal Investigator  
Main Grant Objectives: To conduct literature review to assess current gaps in the biosecurity regulations in the industrial poultry production systems that could potentially lead to an outbreak of Highly Pathogenic Avian Influenza and make recommendations for improvement to the current system.  
Principal Responsibilities: Develop systemic review model to preform literature evaluation, meet with industry representatives and stakeholders to collect qualitative data, create a comprehensive overview of the current production system and make recommendations based on current model.
- CHF 02241 (Davis) 2016-2018  
 AKC Canine Health Foundation  
*The City Dog Study: Microbial determinants of dermatologic and respiratory disease among inner-city dogs living in homes of children with asthma*  
 \$158,367  
Role: Postdoctoral Fellow (2016-17); PhD Student (2017-present)  
Main Grant Objectives: (1) To evaluate whether a dog's personal bacterial exposures contribute to disease among an underserved community dog population, and (2) To examine whether dog bacteria determine colonizing bacteria in children with asthma,

which may improve asthma status.

Principal Responsibilities: Design and manage study, supervise and perform laboratory assessment, perform bioinformatics, analyze data, prepare manuscripts.

## ACADEMIC SERVICE

### UNIVERSITY (JOHNS HOPKINS)

One Health Student Group	
Co-Founder	2015
President	2015-2018
Senior Advisor	2018-present

### DEPARTMENT (ENVIRONMENTAL HEALTH AND ENGINEERING)

Environmental Health and Engineering Practice committee	
Student Representative	2018-present
Environmental Health and Engineering Student Group	
Treasurer	2017-2020

## SCIENTIFIC MEETINGS: PRESENTING AUTHOR, ORAL SESSIONS

**Dalton KR**, Waite KB, Agnew JA, Barnett DJ, David MF. The COVET Study: Preliminary Findings from the Ongoing Veterinary and Animal Care Workers' Perceived Risk and Willingness to Respond to the COVID-19 Pandemic. World One Health Congress. Oct 30 – Nov 3, 2020. (Presenting author, Oral presentation).

**Dalton KR**, Carroll KC, Grice EA, Davis MF. Exploring Microbial Community Alterations during Hospital Animal-Assisted Intervention Programs. ID Week. Oct 21-25, 2020. (Presenting author, Poster presentation).

**Dalton K**, Ruble K, Carroll K, Grice E, and Davis MF. Emerging exposures and health effects in the hospital environment. International Society of Environmental Epidemiology (On Places II, S03), August 25-28, 2019, abstract published in Environmental Epidemiology (Presenting author, Oral presentation).

**Dalton K**, Ruble K, Delone L, Frankenfield P, Walker D, Ludwig S<sup>+</sup>, Ross TL, Jaskulski J, Carroll KC, Rankin S, Morris DO, Chen A, and Davis MF. Reduction in the spread of hospital-associated infections among pediatric oncology patients in a group animal-assisted visitation program from a canine intervention. ID Week (Abstract #72940). October 4, 2018, abstract published in Open Forum Infectious Diseases. (Presenting author, Oral presentation and press conference)

Davis MF, **Dalton K**, Johnson Z, Ludwig S, Sabella K, Newman M, Balcer-Whaley S, Keet C, McCormack MC, Carroll KC, and Matsui EC. Household pets and recovery of *Moraxella catarrhalis* and other respiratory pathogens from children with asthma. ID Week (Abstract #71914). October 6, 2018, abstract published in Open Forum Infectious Diseases. (Poster session)

Innes G, **Dalton K**, Gould CA, Markos A, Nachman K, Frattaroli S, Fanzo J, Barnhill A, and Davis MF. Antibiotic resistance and societal consequences: perspectives from animal agriculture producers and other stakeholders. 8<sup>th</sup> Symposium on Antimicrobial Resistance in Animals and the Environment. July 1-3, 2019 (Poster presentation)

Davis MF, Ludwig S, **Dalton K**, Exum N, Schwab K, Kosek M, Koehler K, Rule A, Lautenbach E, McCormack M, and Matsui E. Assessment of indoor microbial exposures. International Society of Exposure Science & International Society for Environmental Epidemiology joint conference (Abstract#300180). August 28, 2018. (Poster session)

Davis MF, Ludwig S, Josephs-Spaulding J, **Dalton K**, Newman M, Balcer-Whaley S, Peng R, Keet C, McCormack MC, Matsui EC. Environmental exposure to *Staphylococcus aureus* and SEB are associated with asthma symptoms and worse lung function among low-income, urban children with asthma. The American Academy of Allergy, Asthma, and Immunology Annual Meeting, (Abstract# 33436). March 4, 2018, abstract published in the Journal of Allergy and Clinical Immunology.