



CURRICULUM VITAE

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Education and Training:

- 8/1995-5/1999 Pennsylvania State University, Bachelors of Science, Biology
8/1999-8/2001 Pennsylvania State University, Masters of Science, Ecology
8/2001-5/2007 Michigan State University, Dual Ph.D., Zoology and Ecology, Evolutionary Biology, and Behavior (EEBB), Mentor: Thomas S. Whittam
8/2007-1/2008 Postdoctoral Fellow, University of Massachusetts, Mentor: Stephen M. Rich
2/2008-5/2011 Postdoctoral Fellow, University of Michigan, Mentor: Vincent B. Young

Academic Appointments:

- 6/2011-8/2012 Research Investigator, University of Michigan, Department of Internal Medicine, Division of Infectious Diseases
8/2012-4/2013 Adjunct Research Investigator, University of Michigan, Department of Internal Medicine, Division of Infectious Diseases
8/2012-present Assistant Professor, Montana State University, Department of Microbiology & Immunology
5/2018-present Associate Professor, Montana State University, Department of Microbiology & Immunology

Journal Publications (In chronological order):

1. Large TM, **Walk ST**, Whittam TS. Variation in acid resistance among shiga toxin-producing clones of pathogenic *Escherichia coli*. *Appl Environ Microbiol*. 2005. May;71(5):2493-2500. PMID: 15870339. PMCID: PMC1087542.
2. Saeed AM, **Walk ST**, Arshad M, Whittam TS. Clonal structure and variation in virulence of *Salmonella* Enteritidis isolated from mice, chickens, and humans. *J AOAC Int*. 2006. Mar-Apr;89(2):504-511. PMID: 16640300.
3. **Walk ST**, Alm EW, Calhoun LM, Mladonicky JM, Whittam TS. Genetic diversity and population structure of *Escherichia coli* isolated from freshwater beaches. *Environ Microbiol* 2007. Sep;9(9):2274-88. PMID: 17686024.
4. **Walk ST**, Mladonicky JM, Middleton JA, Heidt AJ, Bartlett P, Sato K, Whittam TS. Influence of antibiotic selection on the population genetic composition of *Escherichia coli* from conventional and organic dairy farms. *Appl Environ Microbiol*. 2007. Oct;73(19):5982-9. PMID: 17686024. PMCID: PMC2074991.

5. **Walk ST**, Young VB. Emerging insights into antibiotic-associated diarrhea and *Clostridium difficile* infection through the lens of microbial ecology. *Interdiscip Perspect Infect Dis*. 2008;2008:125081. PMID: 19277109. PMCID: PMC2649424.
6. **Walk ST**, Xu G, Stull JW, Rich SM. Correlation between tick density and pathogen endemicity, New Hampshire. *Emerg Infect Dis*. 2009. Apr;15(4):585-7. PMID: 19331738. PMCID: PMC2671416.
7. **Walk ST**, Alm EW, Gordon DM, Ram JL, Toranzos GA, Tiedje JM, Whittam TS. Cryptic lineages of the *Escherichia* genus. *Appl Environ Microbiol*. 2009. Oct;75(20):6534-44. PMID: 19700542. PMCID: PMC2765150.
8. Oaks JL, Besser TE, **Walk ST**, Gordon DM, Beckmen KB, Burek KA, Haldorson GJ, Bradway DS, Ouellette L, Rurangirwa FR, Davis MA, Dobbin G, Whittam TS. *Escherichia albertii* in wild and domestic birds. *Emerg Infect Dis*. 2010. Apr;16(4):638-46. PMID: 20350378. PMCID: PMC3321939.
9. Aronoff DM, Thelen T, **Walk ST**, Petersen K, Jackson J, Grossman S, Rudrik J, Newton DW, Chenoweth CE. Pseudo-outbreak of *Clostridium sordellii* following probable cross-contamination in a hospital clinical microbiology laboratory. *Infect Control Hosp Epidemiol*. 2010. Jun;31(6):640-2. PMID: 20412011. PMCID: PMC3086061.
10. **Walk ST**, Blum A, Ewing SA, Weinstock JV, Young VB. Alteration of the murine gut microbiota during infection with the parasitic helminth *Heligmosomoides polygyrus*. *Inflamm Bowel Dis*. 2010. Nov;16(11):1841-9. PMID: 20848461. PMCID: PMC2959136.
11. Dave M, Johnson LA, **Walk ST**, Young VB, Stidham RW, Chaudhary MN, FunNell JA, Higgins PDR. A randomised trial of sheathed versus standard forceps for obtaining uncontaminated biopsy specimens of microbiota from the terminal ileum. *Gut*. 2011. Aug;60(8):1043-9. PMID: 21317176.
12. Ingle DJ, Clermont O, Skurnik D, Denamur E, **Walk ST**, Gordon DM. Biofilm formation by and thermal niche and virulence characteristics of *Escherichia* spp. *Appl Environ Microbiol*. 2011. Apr;77(8):2695-00. PMID: 21335385. PMCID: PMC3126365.
13. Luo C, **Walk ST**, Gordon DM, Feldgarden M, Tiedje JM, Konstantinidis KT. Genome sequencing of environmental *Escherichia coli* expands understanding of the ecology and speciation of the model bacterial species. *Proc Natl Acad Sci U S A*. 2011. Apr 26;108(17):7200-5. PMID: 21482770. PMCID: PMC3084108.
14. Clermont O, Gordon DM, **Walk ST**, Denamur E. Characterization of the cryptic *Escherichia* lineages: rapid identification and prevalence. *Environ Microbiol*. 2011. Sep;13(9):2468-77. PMID: 21651689.
15. **Walk ST**, Jain R, Trivedi I, Grossman S, Newton DW, Thelen T, Hao Y, Songer JG, Carter GP, Lyras D, Young VB, Aronoff DM. Non-toxicogenic *Clostridium sordellii*: clinical and microbiological features of a case of cholangitis-associated bacteremia. *Anaerobe*. 2011. Oct;17(5):252-6. PMID: 21726656. PMCID: PMC3183353.
16. Wilson M, Martin R, **Walk ST**, Young C, Grossman S, Lin E, Aronoff DM. Clinical and laboratory features of *Streptococcus salivarius* meningitis: A case report and literature review. *Clinical Medicine & Research*. 2012. Feb;10(1):15-25. PMID: 21817122. PMCID: PMC3280456.
17. Spurbeck RR, Stapleton AE, Johnson JR, **Walk ST**, Hooton TM, Mobley HL. Fimbrial profiles predict virulence of uropathogenic *Escherichia coli* strains: contribution of ygi and yad fimbriae. *Infect Immun*. 2011. Dec;79(12):4753-63. PMID: 21911462. PMCID: PMC3232662.

18. Walters MS, Lane MC, Vigil PD, Smith SN, **Walk ST**, Mobley HL. Kinetics of uropathogenic *Escherichia coli* metapopulation movement during urinary tract infection. *MBio*. 2012. Feb 7;3(1). PMID: 22318320. PMCID: PMC3273315.
19. Spurbeck RR, Dinh PC Jr, **Walk ST**, Stapleton AE, Hooton TM, Nolan LK, Kim KS, Johnson JR, Mobley HL. *Escherichia coli* isolates that carry *vat*, *fyuA*, *chuA*, and *yfcV* efficiently colonize the urinary tract. *Infect Immun*. 2012. Dec;80(12):4115-22. PMID:22966046. PMCID: PMC3497434.
20. **Walk ST**, Micic D, Jain R, Lo ES, Trivedi I, Liu EW, Almassalha LM, Ewing SA, Ring C, Galecki AT, Rogers MAM, Washer L, Newton DW, Malani PN, Young VB, Aronoff DM. *Clostridium difficile* ribotype does not predict severe infection. *Clin Infect Dis*. 2012. Dec;55(12):1661-8. PMID:22972866. PMCID: PMC3501335.
21. Nelson AM, **Walk ST**, Taube S, Taniuchi M, Houpt ER, Wobus CE, Young VB. Disruption of the human gut microbiota following *Norovirus* infection. *PLoS One*. 2012;7(10):e48224. PMID:23118957. PMCID: PMC3484122.
22. Rao K, Berland D, Young C, **Walk ST**, Newton DW. The nose knows not: poor predictive value of stool sample odor for detection of *Clostridium difficile*. *Clin Infect Dis*. 2013. Feb;56(4):615-6. PMID: 23166192. PMCID: PMC3571629.
23. **Walk ST**, Micic D, Galecki AT, Rogers MA, Washer L, Newton DW, Malani PN, Young VB, Aronoff DM. Reply to McDonald. *Clin Infect Dis*. 2013. Mar;56(6):907-8. PMID: 23196958. PMCID: PMC3590029.
24. Feglo P, Adu-Sarkodie Y, Ayisi L, Jain R, Spurbeck RR, Springman AC, Engleberg NC, Newton DW, Xi C, **Walk ST**. Emergence of a novel extended-spectrum- β -lactamase (ESBL)-producing, fluoroquinolone-resistant clone of extraintestinal pathogenic *Escherichia coli* in Kumasi, Ghana. *J Clin Microbiol*. 2013. Feb;51(2):728-30. PMID: 23241377. PMCID: PMC3553870.
25. **Walk ST**, Micic D, Galecki AT, Rogers MA, Washer L, Newton DW, Malani PN, Young VB, Aronoff DM. Reply to Walker et al. *Clin Infect Dis*. 2013. Jun;56(12):1846-7. PMID:23420819. PMCID: PMC3888128.
26. Rao K, **Walk ST**, Micic D, Chenoweth E, Deng L, Galecki AT, Jain R, Trivedi I, Yu M, Santhosh K, Ring C, Young VB, Huffnagle GB, Aronoff DM. Procalcitonin levels associate with severity of *Clostridium difficile* infection. *PLOS One*. 2013. 8(3):e58265. PMID: 23505476. PMCID: PMC3591407.
27. Jain R, **Walk ST**, Aronoff DM, Young VB, Newton DW, Chenoweth C, Washer L. Emergence of carbapenemase-producing *Klebsiella pneumoniae* of sequence type 258 in Michigan, USA. *Infect Dis Rep*. 2013. Mar 19;5(1):e5. PMID: 24470956. PMCID: PMC3892616.
28. Waslawski S, Lo ES, Ewing SA, Young VB, Aronoff DM, Sharp SE, Novak-Weekley SM, Crist AR, Dunne WM, Hoppe-Bauer J, Johnson M, Brecher SM, Newton DW, **Walk ST**. *Clostridium difficile* ribotype diversity at six US medical centers. *J Clin Microbiol*. 2013. Jun;51(6):1938-41. PMID: 23554188. PMCID: PMC3716112.
29. Carlson PE Jr, **Walk ST**, Bourgis AE, Liu MW, Kopliku F, Lo E, Young VB, Aronoff DM, Hanna PC. The relationship between phenotype, ribotype, and clinical disease in human *Clostridium difficile* isolates. *Anaerobe*. 2013. Dec;24:109-16. PMID: 23608205. PMCID: PMC4038106.
30. **Walk ST**, Micic D, Galecki AT, Young VB, Aronoff DM. Understanding increased mortality in *Clostridium difficile*-infected older adults. *Clin Infect Dis*. 2013. Aug;57(4):625-6. PMID: 23658435. PMCID: PMC3719887.
31. Natarajan M, **Walk ST**, Young VB, Aronoff DM. A clinical and epidemiological review of non-toxicogenic *Clostridium difficile*. *Anaerobe*. 2013. Aug;22:1-5. PMID: 23727391. PMCID: PMC3729612.

32. Behroozian AA, Chludzinski J, Lo E, Ewing SA, Waslawski S, Newton DW, Young VB, Aronoff DM, **Walk ST**. Detection of mixed populations of *Clostridium difficile* from symptomatic patients using capillary-based polymerase chain reaction ribotyping. *Infect Cont Hosp Epidemiol*. 2013. Sept;34(9):961-6. PMID: 23917911. PMCID: PMC4016961.
33. Jutila AA, Zignego DL, Hwang BK, Hilmer JK, Hamerly T, Minor CA, **Walk ST**, June RK. Candidate mediators of chondrocyte mechanotransduction via targeted and untargeted metabolomics measurements. *Arch Biochem Biophys*. 2014. Mar1;545:116-23. PMID: 24440608. PMCID: PMC3967962.
34. Rao K, Erb-Downward JR, **Walk ST**, Micic D, Falkowski N, Santhosh K, Mogle JA, Ring C, Young VB, Huffnagle GB, Aronoff DM. The systemic inflammatory response to *Clostridium difficile* infection. *PLoS One*. 2014. Mar 18;9(3):e92578. PMID: 24643077. PMCID: PMC3958555.
35. Alam MJ, Anu A, **Walk ST**, Garey KW. Investigation of potentially pathogenic *Clostridium difficile* contamination in household environs. *Anaerobe*. 2014. Jun;27:31-3. PMID: 24657158.
36. Martinson JN, Broadway S, Lohman E, Johnson C, Alam MJ, Khaleduzzaman M, Garey KW, Schlackman J, Young VB, Santhosh K, Rao K, Lyons RH Jr, **Walk ST**. Evaluation of portability and cost of a fluorescent PCR ribotyping protocol for *Clostridium difficile* epidemiology. *J Clin Microbiol*. 2015. Apr;53(4):1192-7. PMID: 25631804. PMCID: 4365229.
37. Rao K, Micic D, Natarajan M, Winters S, Kiel MJ, **Walk ST**, Santhosh K, Mogle JA, Galecki AT, LeBar W, Higgins P, Young VB, Aronoff DM. *Clostridium difficile* ribotype 027: Relationship to age, detectability of toxins A or B in stool with rapid testing, severe infection, and mortality. *Clin Infect Dis*. 2015. Jul 15;61(2):233-41. PMID: 25828993. PMCID: 4565993.
38. Aitken SL, Alam MJ, Khaleduzzaman M, **Walk ST**, Musick WL, Pham VP, Christensen J, Atmar R, Xie Y, Garey KW. In the endemic setting, *Clostridium difficile* ribotype 027 is virulent but not hypervirulent. *Infect Cont Hosp Epidemiol*. 2015. Nov;36(11):1318-23. PMID: 26288985. PMCID: 4710480.
39. **Walk ST**. The "cryptic" *Escherichia*. *EcoSal Plus*. 2015. Jul;6(2). PMID: 26435255.
40. Natarajan M, Rogers MAM, Bundy J, Micic D, **Walk ST**, Santhosh K, Rao K, Winters S, Young VB, Aronoff DM. Gender differences in non-toxigenic *Clostridium difficile* colonization and risk of subsequent *C. difficile* infection. *Clin Res Infect Dis*. 2015. Aug;2(2):1017-25.
41. Nelson TM, Borgogna JC, Brotman RM, Ravel J, **Walk ST**, Yeoman CJ. Vaginal biogenic amines: Biomarkers of bacterial vaginosis or precursors to vaginal dysbiosis? *Front Physiol*. 2015. Sep 29;6:253. PMID: 26483694. PMCID: 4586437.
42. Micic D, Rao K, Trindade BC, **Walk ST**, Chenoweth E, Jain R, Trivedi I, Santhosh K, Young VB, Aronoff DM. Serum 25-hydroxyvitamin D levels are not associated with adverse outcomes in *Clostridium difficile* infection. *Infect Dis Rep*. 2015. Sep 29;7(3):5979. PMID: 26500740. PMCID: 4593886.
43. Manrique P, Bolduc B, **Walk ST**, van der Oost J, de Vos WM, Young MA. The healthy human gut phageome. *Proc Natl Acad Sci USA*. 2016. Sept 13;113(37):10400-5. PMID: 27573828. PMCID: 5027468.
44. Alam MJ, **Walk ST**, Endres BT, Basseres E, Khaleduzzaman M, Amadio J, Musick WL, Christensen JL, Juo J, Atmar RL, Garey KW. Community environmental contamination of toxigenic *Clostridium difficile*. *Open Forum Infect Dis*. 2017. Feb 10;4(1):ofx018. PMID: 28480289. PMCID: 5414050

45. Uldahl KB, **Walk ST**, Olshefsky SC, Young MJ, Peng X. SMV1, an extremely stable thermophilic virus platform for nanoparticle trafficking in the mammalian GI tract. *J Appl Microbiol*. 2017. Nov;123(5):1286-97. PMID: 28891224. PMCID: PMC5794226.
46. Hill DR, Huang S, Nagy MS, Yadagiri VK, Fields C, Mukherjee D, Bons B, Dedhia PH, Chin AM, Tsai YH, Thodla S, Schmidt TM, **Walk S**, Young VB, Spence JR. Bacterial colonization stimulates a complex physiological response in the immature human intestinal epithelium. *Elife*. 2017. Nov 7;6. PMID: 29110754.
47. Micic D, Yarur A, Gonsalves A, Rao VL, Broadaway S, Cohen R, Dalal S, Gaetano JN, Glick LR, Hirsch A, Pekow J, Sakauraba A, **Walk ST**, Rubin DT. Risk factors for *Clostridium difficile* isolation in inflammatory bowel disease: A prospective study. *Dig Dis Sci*. 2018. Apr;63(4):1016-1024. PMID: 29417331.
48. Alexeev EE, Lanis JM, Kao DJ, Campbell EL, Kelly CJ, Battista KD, Gerich ME, Jenkins BR, **Walk ST**, Kominsky DJ, Colgan SP. Microbiota-derived indole metabolites promote human and murine intestinal homeostasis through regulation of interleukin-10 receptor. *Am J Pathol*. 2018. May;188(5):1183-94. PMID: 29454749.
49. Gardnier BJ, Thorpe CM, Pinkham NV, McDermott LA, **Walk ST**, Snyderman DR. A repeat offender: Recurrent extraintestinal *Clostridium difficile* infection following fecal microbiota transplantation. *Anaerobe*. 2018. Jun;51:68-72. PMID: 29709869.
50. Snyderman DR, McDermott LA, Thorpe CM, Chang J, Wick J, **Walk ST**, Vickers RJ. Antimicrobial susceptibility and ribotypes of *Clostridium difficile* isolates from a Phase 2 clinical trial of ridinilazole (SMT19969) and vancomycin. *J Antimicrob Chemother*. 2018. Apr;73:2078-84. PMID: 29718329.
51. Blanco N, **Walk S**, Malani AN, Rickard A, Benn M, Eisenberg M, Zhang M, Foxman B. *Clostridium difficile* shows no trade-off between toxin and spore production within the human host. *J Med Microbiol*. 2018. May;67(5):631-40. PMID: 29533173.
52. Coryell M, McAlpine M, Pinkham NV, McDermott TR, **Walk ST**. The gut microbiome is required for full protection against acute arsenic toxicity in mouse models. *Nat Commun*. 2018. Dec 21;9(1):5424. PMID: 30575732.
53. Endres BT, Begum K, Sun H, **Walk ST**, Memariani A, Lancaster C, Gonzales-Luna AJ, Dotson KM, Basseres E, Offiong C, Tupy S, Kuper K, Septimus E, Arafat R, Alam MJ, Zhao Z, Hurdle JG, Savidge TC, Garey KW. Epidemic *Clostridioides difficile* ribotype 027 lineages: Comparisons of Texas versus worldwide strains. *Open Forum Infect Dis*. 2019. Feb 9;6(2):ofz013. PMID: 30793006.
54. Martinson JN, Pinkham NV, Peters GW, Cho H, Heng J, Rauch M, Broadaway SC, **Walk ST**. Rethinking microbiome residency and the *Enterobacteriaceae* in healthy human adults. *ISME J*. 2019. Sep;13(9):2306-18. PMID: 31089259.
55. Sidar B, Jenkins BR, Huang S, Spence JR, **Walk ST***, Wilking JN*. Long-term flow through human intestinal organoids with the gut organoid flow chip (GOFlowChip). 2019. *Lab on a Chip*. Oct 9;19(20):3552-3562. PMID: 31556415. *Co-corresponding authors
56. Coryell M, Roggenbeck BA, **Walk ST**. The human gut microbiome's influence on arsenic toxicity. 2019. *Curr Pharm Rep*. Dec;5(6):491-4. PMID: 31929964.
57. Gonzales-Luna AJ, Carlson TJ, Dotson KM, Poblete K, Costa G, Miranda J, Lancaster C, **Walk ST**, Tupy S, Begum K, Alam MJ, Garey KW. PCR ribotypes of *Clostridioides difficile* across Texas from 2011-2018 including emergence of ribotype 255. *Emerg Microbe Infect*. 2020. Dec;9(1):341-47. PMID: 32037964.

58. Snyderman DR, McDermott LA, Jenkins SG, Goldstein E, Patel R, Forbes BA, Johnson S, Gerding DN, Thorpe CM, **Walk ST**. Epidemiologic trends in *Clostridioides difficile* isolate ribotypes in the United States from 2011-2016. 2020. *Anaerobe*. Accepted.

Book Chapters:

- Alm EW, **Walk ST**, Gordon DM. The niche of *Escherichia coli*. For Bacterial Population Genetics: A Tribute to Thomas S. Whittam. 2011. ASM Press. Washington, DC. ISBN 978-1-55581-535-6.
- Besser TE, Davis MA, **Walk ST**. The evolutionary ecology of enterohemorrhagic *Escherichia coli*. For Bacterial Population Genetics: A Tribute to Thomas S. Whittam. 2011. ASM Press. Washington, DC. ISBN 978-1-55581-535-6.
- Abu-Ali GS, Springman AC, Ouellette LM, Wick L, Qi W, Vanaja SK, Bergholz TM, Lacher DW, **Walk ST**, Tietjen JA, Steinsland H, Riordan JT, Manning SD. Molecular evolution of enterohemorrhagic *Escherichia coli* and application to epidemiology. For Bacterial Population Genetics: A Tribute to Thomas S. Whittam. 2011. ASM Press. Washington, DC. ISBN 978-1-55581-535-6.

Poster Presentations:

- 2001 **Walk ST**, Whittam TS. Competition between two enteropathogenic *Escherichia coli* strains in two harsh secondary environments. Joint Meeting of the Society for the Study of Evolution, Knoxville, Tennessee
- 2002 **Walk ST**, Reid SD, Herbelin CJ, Whittam TS. Fitness advantage of an RpoS mutant in a fluctuating environment. American Society for Microbiology General Meeting, Salt Lake City, Utah.
- 2003 Large TM, Birkeland SR, Hyma KE, **Walk ST**, Whittam TS. Variation in durability in Shiga toxin-producing *Escherichia coli* clones. 2nd Governor's Conference on Ensuring Meat Safety: *E. coli* O157:H7 Progress and Challenges, Lincoln, Nebraska.
- 2004 **Walk ST**, Calhoun LM, DeRose-Wilson LJ, Alm EW, Whittam TS. Common genotypes across independent populations of *Escherichia coli* from beaches along Lake Huron, Michigan. 24th Annual Midwest Ecology and Evolution Conference (MEEC), University of Notre Dame, South Bend, IN
- 2004 **Walk ST**, Calhoun LM, DeRose-Wilson LJ, Alm EW, Whittam TS. Genetic diversity of environmental *Escherichia coli* isolated from beaches along Lake Huron, Michigan. American Society for Microbiology General Meeting, New Orleans, Louisiana.
- 2005 **Walk ST**, Keinath LE, Sankaralingam S, Mladonicky JM, Large TM, Alm EW, Whittam TS. Genetic characterization and phenotypic diversity of *Escherichia coli* from freshwater beaches. American Society for Microbiology General Meeting, Atlanta, Georgia.
- 2006 **Walk ST**, Mladonicky JM, Sato K, Whittam TS. Organic agricultural effects on the phylogenetic composition of *Escherichia coli* populations from dairy cattle. American Society for Microbiology General Meeting, Orlando, Florida.
- 2009 **Walk ST**, Koplaku F, Opp J, Bloom A, Weinstock J, Young VB. Alteration of the murine gut microbiota by the helminth, *Heligmosomoides polygyrus*, and the antihelminthic agent, pyrantel. American Society for Microbiology General Meeting, Philadelphia, Pennsylvania.
- 2010 Dave M, **Walk ST**, Young VB, Higgins P. Sheathed vs. Standard Forceps: Does it matter for obtaining uncontaminated biopsy specimens of microbiota from the terminal ileum? Digestive Disease Week. New Orleans, Louisiana.

- 2010 Oaks JL, Besser TE, **Walk ST**, Gordon DM. Mortality in wild and domestic birds due to *Escherichia albertii*: description of an emerging avian pathogen. Wildlife Disease Association, 59th annual meeting, Iguazu, Argentina.
- 2010 Luo C, **Walk ST**, Tiedje JM, Kostantinidis KT. Genomic characterization of environmental *Escherichia* lineages and their comparison against gastrointestinal *E. coli*. American Society for Microbiology General Meeting. San Diego, California.
- 2010 **Walk ST**, Aronoff DM, Young VB. Isolation and characterization of toxigenic and non-toxigenic *C. difficile* strains from patients. The 10th Biennial Congress of the Anaerobe Society of the Americas. Philadelphia, Pennsylvania.
- 2011 Nelson AM, **Walk ST**, Young VB. Characterization of the human gut microbiota in patients with norovirus. Keystone Symposia: Microbial Communities as Drivers of Ecosystem Complexity. Breckenridge, Colorado.
- 2011 **Walk ST** The *ex vivo* biology of enteric microbes. Ecological Research in Agricultural Landscapes: The 2011 KBS LTER All Scientist Meeting. Michigan State University Kellogg Biological Station. Hickory Corners, Michigan.
- 2011 Ewing SA, **Walk ST**, Aronoff DA, Young VB. Comparison and genotypic characterization of *Clostridium difficile* strains obtained from elderly and young patients. American Society for Microbiology General Meeting. New Orleans, Louisiana.
- 2011 **Walk ST**, Young VB, Aronoff DM. A phylogenetic analysis of the negative toxin regulator (TcdC) of *Clostridium difficile*. 7th International Conference on the Molecular Biology and Pathogenesis of the Clostridia (ClosPath). Iowa State University, Ames, IA.
- 2012 **Walk ST**, Malani PN, Aronoff DM. Associations between *Clostridium difficile* infection severity, *C. difficile* genotype, and patient age. Older Americans Independence Center (OAIC) National Meeting. April 16-17. Bethesda, MD.
- 2012 Behroozian AA, Chludzinski J, Lu E, Ewing SA, Waslawski S, Newton DW, Young VB, Aronoff DM, **Walk ST**. Analysis of symptomatic patient stool samples for the co-occurrence of non-identical *Clostridium difficile* ribotypes. June 29-July 1. Anaerobe Society of the Americas. San Francisco, CA.
- 2012 Rao K, **Walk ST**, Micic D, Chenoweth CE, Deng L, Jain R, Trivedi I, Yu M, Ring C, Young VB, Huffnagle G, Aronoff DM. Procalcitonin levels correlate with severity in cases of *Clostridium difficile* infection. September 9-12. 52nd ICAAC. San Francisco, CA.
- 2012 Yu MA, **Walk ST**, Tupps M, Ring C, Horwedel T, Aronoff DM, Nagel JL. Recurrent *Clostridium difficile* Infections (CDI) in Solid Organ Transplant (SOT) Recipients. September 9-12. 52nd ICAAC. San Francisco, CA.
- 2012 Chesnel L, Crist AE, Patti RM, Snyderman DR, **Walk ST**, Kishel J. Susceptibilities of recent clinical isolates of *Clostridium difficile* to CD-183,315 and comparators. September 9-12. 52nd ICAAC. San Francisco, CA.
- 2012 Rao K, Berland D, Young C, **Walk ST**, Newton DW. The nose knows not: Poor value of nurse detection of *Clostridium difficile* by odor. October 17-21. Infectious Disease Week. San Diego, CA.
- 2013 Stettner S, Broadaway SC, McAlpine M, Schreckenberger PC, McKinley K, **Walk ST**. Multilocus sequence typing (MLST) of carbapenemase-producing *Klebsiella pneumoniae* isolates from symptomatic patients. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.

- 2014 Andrechak A, Broadaway SC, Potter A, Alm EW, **Walk ST**. Multi-locus sequence typing of *Escherichia coli* isolates from freshwater sediment. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.
- 2014 Martinson J, Broadaway SC, Wilkinson R, Wiedenheft B, **Walk ST**. Inactivation of *Clostridium difficile* toxin gene, *tcdB*, using CRISPR mutagenesis. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.
- 2014 Stettner S, Broadaway SC, McAlpine M, Schreckenberger PC, McKinley K, **Walk ST**. Molecular typing of carbapenemase-producing *Klebsiella pneumoniae* isolates by plasmid diversity analysis. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.
- 2014 Martinson J, Alam MJ, Khaleduzzunman M, Garey KW, Schlackman J, Marsh JW, Young VB, Broadaway SC, **Walk ST**. A multicenter, blinded portability study of fluorescent PCR ribotyping for *Clostridium difficile*. May 17-20. American Society for Microbiology General Meeting. Boston, MA.
- 2014 Kills Pretty Enemy T, Broadaway SC, and **Walk ST**. Molecular epidemiology of *Clostridium difficile* in Bozeman, MT. August. BRIDGES Research Celebration.
- 2014 Aitken SL, Alam MJ, Khaleduzzunman M, **Walk ST**, Musick WL, Garey KW. *Clostridium difficile* ribotype 027 (R027) independently predicts leukocytosis and hypoalbuminemia in patients with severe CDI outcomes. September 6. 54th ICAAC, Washington, DC.
- 2015 Potter A, Andrechak A, Broadaway SC, **Walk ST**. Novel *Escherichia* lineages and the campus waterfowl environment. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.
- 2015 Okrusch K, McAlpine M, Roe M, Blum A, Weinstock J, **Walk ST**. The role of the GI tract microbiome in a murine-parasite model of inflammatory bowel disease. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.
- 2015 Cree Medicine SD, Kills Pretty Enemy T, Broadaway SC, **Walk ST**. *Clostridium difficile* outbreak investigation. August. INBRE/BRIDGES/AIRO Research Celebration.
- 2015 Kills Pretty Enemy T, Broadaway SC, and **Walk ST**. Molecular epidemiology of *Clostridium difficile* in Bozeman, MT. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.
- 2016 Helming A, Martinson J, **Walk ST**. Quantifying the plasmid curing capacity of natural, non-toxic compounds in antibiotic resistant bacteria. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.
- 2016 Doty DG, Broadaway SC, **Walk ST**. A clinical epidemiological study of *Clostridium difficile* infection at the University of Chicago Hospital. August. INBRE/BRIDGES/AIRO Research Celebration. Bozeman, MT.
- 2016 Ekness T, Broadaway SC, Kills Pretty Enemy T, **Walk ST**. Genetic identification and antibiotic resistance comparison of *Clostridium difficile* in institutional outbreaks. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.
- 2016 Whitewolf-Lone Elk A, Broadaway SC, **Walk ST**. Characterization of *Clostridium difficile* isolated from clinical samples. August. INBRE/BRIDGES/AIRO Research Celebration. Bozeman, MT.
- 2016 Jenkins BR, Corpron J, Huang S, Spence JR, **Walk ST**, Kominsky DJ. Microbial modulation of intestinal epithelial barrier function. September. Graduate Student Recruitment Day. Bozeman, MT.

- 2016 Snyderman DR, McDermott LA, Thorpe CM, Chang J, Wick J, **Walk ST**, Vickers R. Analysis of *Clostridium difficile* isolated from stools of patients enrolled in a phase II clinical trial of Ridinilazole (SMT 19969). American Society for Microbiology Microbe Meeting. June 16-20. Boston, MA.
- 2017 Broadaway SC, Martinson JV, **Walk ST**. Reducing the antibiotic resistance gene reservoir by plasmid curing. USDA National Institute of Food and Agriculture, Institute of Food Safety and Nutrition Project Director Meeting. July 8, 2017. Tampa, FL.
- 2017 Coryell M, Li P, Wang Y, McAlpine M, McDermott TR, **Walk ST**. The human microbiome protects against arsenic toxicity. NIH Emerging Themes Workshop. August 16-18. Bethesda, MD.
- 2017 McAlpine M, Broadaway SC, Alam MJ, Garey KW, **Walk ST**. Epidemic 027 isolates are highly virulent in a germ free mouse model of *Clostridium difficile* infection. ClostPath. August 8-10. Ann Arbor, MI.
- 2017 Snyderman DR, McDermott LA, Jenkins SG, Goldstein EJC, Patel R, Forbes BA, Johnson S, Gerding D, Thorpe C, **Walk ST**. Epidemiologic Trends in *Clostridium difficile* Isolate Ribotypes in United States from 2010-2014. IDWeek. October 4-8. San Diego, CA.
- 2018 Grifka-Walk H, Liss H, Pinkham NV, Balasubramanian G, Jenkins B, Swain S, **Walk ST**, Kominsky D. Discovery of a protective and transmissible microbiome that alters intestinal and systemic inflammatory responses. Pathobiology for Investigators, Students and Academicians. Molecular Mechanisms of Disease: Tissue Homeostasis, Immune Response, and Cancer. October 20-22. Ann Arbor, MI.
- 2019 Coryell M, McAlpine M, Pinkham NV, McDermott TR, **Walk ST**. Human gut microbiota mitigate arsenic toxicity in murine model. American Society for Microbiology (ASM) Microbe. June 20-24. San Francisco, CA.
- 2019 Martinson JNV, Pinkham NV, Peters GW, Cho H, Heng J, Rauch M, Broadaway SC, **Walk ST**. Rethinking gut microbiome residency and the *Enterobacteriaceae* in healthy human adults. American Society for Microbiology (ASM) Microbe. June 20-24. San Francisco, CA.
- 2019 Peters GW, Martinson JNV, Pinkham NV, Broadaway SC, **Walk ST**. Metabolic fitness allows *Escherichia coli* to reside in the human gut. American Society for Microbiology (ASM) Microbe. June 20-24. San Francisco, CA.
- 2020 Wilson SM, Pinkham NV, Walk ST, Yeoman CJ, Miles MP. Frequency and mode of physical activity influence gut microbial composition in overweight and obese adults. American Society of Sports Medicine. May 26-30. San Francisco, CA.

Invited Seminars/Lectures/Workshops (plenary talks noted in bold):

4/24/2009, Center for Infectious Disease Dynamics Seminar, Pennsylvania State University

Title: The hygiene hypothesis: protective effects of the indigenous microbiota and parasitic infection

4/23/2010, University of Michigan Microbiome Research Initiative, University of Michigan

Title: Translational microbial ecology

5/30/2011, The School of Life Sciences, Ecole Polytechnique Federale de Lausanne (EPFL)

Title: Pathogen-microbiota-host dynamics during *Clostridium difficile* infection

- 9/16/2011, 51-10 Antibiotic Resistance Among Bacterial Pathogens: Mechanisms, Detection, and Molecular Epidemiology. At the 51st Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) in Chicago, Illinois
Title: Methicillin resistant *Staphylococcus aureus* (MRSA) and *Clostridium difficile*
- 4/2/2012, Geriatrics Research Symposium. University of Michigan, Ann Arbor, MI
Title: Predicting severe *Clostridium difficile* infection in elderly patients
- 5/22/2012, Montana State University. Bozeman, MT
Title: Considering microbiologic variation in molecular microbial ecology.
- 11/1/2012, 11th International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases. **Plenary Talk**, Loyola University, New Orleans, LA
Title: Meet the neighbors: Discovery of cryptic *Escherichia* clades changes our understanding of *E. coli* evolution
- 9/17/2013, Department of Immunology and Infectious Disease Seminar Series, Montana State University, Bozeman, MT
Title: Germ free models to identify immunomodulation by GI tract microbiota
- 11/7/2013, Center for Biofilm Engineering, Montana State University, Bozeman, MT
Title: The potential importance of GI tract biofilms in human health and disease
- 12/7/2013, *Clostridium difficile* Gulf Coast Collaborative Meeting, University of Houston College of Pharmacy, Houston, TX
Title: Next generation strain typing of *Clostridium difficile*
- 6/7/2014, American Association for Laboratory Animal Science (AALAS), Northern Rocky Mountain Branch Meeting, Flathead Lake Biological Station, Yellow Bay, MT
Title: Germ free mouse models for microbiome research
- 6/25/2014, Clinical and Translational Research – Integrated Network (CTR-IN) Annual Meeting, University of Nevada Las Vegas, Las Vegas, NV
Title: Multicenter surveillance of *Clostridium difficile* infection in the US: Examination of current testing guidelines
- 9/30/2014, Department of Plant Sciences and Plant Pathology, Montana State University, Bozeman, MT
Title: Germ free models for studying host-associated microbiomes
- 11/24/2014, University of Montana, Division of Biological Sciences, Missoula, MT
Title: Human intestinal organoids for microbiome research
- 2/12/2015, Montana State University, Kopriva Lectureship in Interdisciplinary Biomedical Sciences
Title: The GI tract microbiome in human health and disease
- 4/23/2015, Department of Pharmacy Practice and Translational Research, University of Houston School of Pharmacy, Texas Medical Center, Houston, TX
Title: Molecular typing tools for *Clostridium difficile*
- 7/13/2015, Montana Biofilm S&T Meeting, Bozeman, MT
Title: *Clostridium difficile* and health care-associated infection
- 10/3/2015, Inflammatory Bowel Research Day, Crohn's and Colitis Foundation, Bozeman, MT

Title: IBD and the microbiome
10/30/2015, University of South Florida, Department of Cell Biology, Microbiology, and Molecular Biology, Tampa, FL

Title: The mammalian microbiome detoxifies arsenic
1/18/2016, Wonderlust Lifelong Learning, Bozeman, MT

Title: The human microbiome
2/3/2016, Institute on Ecosystems Rough Cut Series, Montana State University, Bozeman, MT

Title: The discovery of environmental *Escherichia coli* and its potential impact on environmental health sciences
5/11/2016, Annual Retired Faculty and Staff Dinner, Montana State University, Bozeman, MT

Title: The human microbiome; recent discoveries
6/3/2016, Center for Protease Research, **Plenary Talk**, North Dakota State University, Fargo, ND

Title: Detoxification of arsenic by the human microbiome
2/6/2017, Center for Biofilm Engineering, Montana State University, Bozeman, MT

Title: Engineering human intestinal organoids and arsenic detox by the human microbiome
3/29/2017, Department of Microbiology, Ohio State University, Columbus, OH

Title: Microbiome detoxification of arsenic: active metabolism or biomass incorporation?
4/4/2017, Wonderlust Lifelong Learning, Belgrade, MT

Title: The use of new DNA technologies to promote human health
4/7/2017, American Society for Clinical Laboratory Science, Branch Meeting, Bozeman, MT

Title: The epidemiology of *Clostridium difficile* infection
4/26/2017, Department of Veterinary and Biomedical Sciences, Pennsylvania State University, University Park, PA

Title: Arsenic detoxification by the human microbiome
7/26/2017, Infectious Disease Genomics Conference, **Plenary Talk**, Austin, TX

Title: Phages and the phageome as novel infectious disease therapeutics
7/17/2018, Center for Biofilm Engineering, Montana State University, Bozeman, MT

Title: Life in the human gut microbiome
7/18/2018, Metabolism of Environmental Toxicants by the Gut Microbiome, Montana State University, Bozeman, MT

Title: Microbiome functions underlying arsenic toxicity in mice
11/2/2018, Thomas S. Whittam Symposium, Michigan State University, Microbiology & Molecular Genetics, East Lansing, MI

Title: Temporal dynamics of *Enterobacteriaceae* in healthy human adults
3/3/2019, Crohn's and Colitis Foundation Education Day, Montana State University, Bozeman, MT

Title: The bugs in your belly and what they do
6/1/2019, Familial Dysautonomia Day, New York University, Langone Medicine Center, New York, NY

Title: FD and the gut microbiome

6/26/2019, US Federal Drug Administration, Greenbelt, MD

Title: Human gut microbiome: some ecology and function

7/9/2019, Vanderbilt Institute for Infection, Immunology, and Inflammation (VI4), Vanderbilt University, Nashville, TN

Title: Temporal dynamics of the human gut microbiome

9/16/2019, Delaware Valley Drug Metabolism Discussion Group, Philadelphia, PA

Title: Microbiome determinants of arsenic toxicity

Grant Review Service:

- 2015 National Institutes of Health, Systemic Injury from Environmental Exposure (SIEE) Study Section, Ad hoc reviewer
- 2016 National Institutes of Health, Xenobiotic and Nutrient Disposition and Action (XNDA) Study Section, Ad hoc reviewer
- 2016 National Institutes of Health, National Institute of Allergy and Infectious Diseases, Pre-clinical Models of Infectious Diseases Special Emphasis Panel, N01 Contract Review, ZAI1-JKB-M-C2
- 2016 National Institutes of Health, National Institute of Allergy and Infectious Diseases, Pre-clinical Models of Infectious Diseases Special Emphasis Panel, N01 Contract Review, ZAI1-JKB-M-C3
- 2016 National Institutes of Health, ZRG1 IDM-B 80 S, Topics in Microbial Pathogenesis Special Emphasis Panel
- 2017 National Institutes of Health, Systemic Injury from Environmental Exposure (SIEE) Study Section, Ad hoc reviewer
- 2018 National Institutes of Health, ZRG1 DKUS M(50), Special Emphasis Panel for RFA ES-18-005, National Institute of Environmental Health Sciences
- 2018 National Institutes of Health, ZES1 LWJ-S (R2), Special Emphasis Panel for RFA-ES-17-009, National Institute of Environmental Health Sciences
- 2018 National Institutes of Health, Systemic Injury from Environmental Exposure (SIEE) Study Section, Ad hoc reviewer
- 2018 National Institutes of Health, Special Emphasis Panel ZES1 LWJ-D(RI) 1, RIVER R35, National Institute of Environmental Health Sciences
- 2019 National Institutes of Health, Host Interactions with Bacterial Pathogens (HIBP) Study Section, Ad hoc reviewer (Feb)
- 2019 National Institutes of Health, Host Interactions with Bacterial Pathogens (HIBP) Study Section, Ad hoc reviewer (June)
- 2019 National Institutes of Health, Superfund Hazardous Substance and Training Research Review, ZES1 JAB-D 1 (June)
- 2019 National Institutes of Health, Evaluation of the P42 Superfund research grant applications, ZES1 JAB-D (SF) 1 (July)
- 2019 National Institutes of Health, Small Business: Digestive Sciences, ARG1 DKUS-R (10) B
- 2019 National Institutes of Health, National Center for Complementary and Integrative Health, Botanical Dietary Supplements Research Centers (U19), ZAT1 AJT (12) (Sept)

- 2020 National Institutes of Health, Small Business: Digestive Sciences, ARG1 DKUS-R (10) B (Feb)
- 2020 National Institutes of Health, Host Interactions with Bacterial Pathogens (HIBP) Study Section, Ad hoc reviewer (Feb)

Research Support (complete grants in regular text; **active grants in bold italics**; pending grants in underlined italics):

- 6/2008 – 5/2011 NIH Fellow T32 HL007749-15
Multidisciplinary Training Program in Lung Disease
- 7/2008 – 12/2010 Postdoctoral Translational Scholars Program
Awarded by the Michigan Institute for Clinical and Health Research (A Clinical and Translational Science Award from the National Center for Research Resources, Grant Number UL1RR024986)
- 10/2011 – 3/2012 Pilot and Exploratory Studies Core of the UM Claude Pepper Older Americans Independence Center (OAIC) and the Michigan Institute for Clinical and Health Research (MICHHR)
Title: CDI isolates in older vs. younger patients; immune biomarkers and GI tract microbial ecology
- 5/2012 – 4/2017 NIH/NIAID K01AI097281
Role: PI
Mentored Research Scientist Career Development Award (K01)
Title: Phylogenomic epidemiology of *Clostridium difficile*
- 9/2013 – 6/2014 Mountain West Research Consortium, Clinical Translational Research – Integrated Network (CTR-IN) Pilot Grant Award
Role: Project leader (PI: Robert Langer)
Pilot grant
Title: Multicenter epidemiology and diagnosis of *Clostridium difficile* infection
- 2/2014 – 1/2016 NIH/NIAID R21AI111145
Role: PI (with Carl J. Yeoman, contact)
Exploratory/Development Grant
Title: Microbial polyamine-mediated reductions in vaginal acidity; A mechanistic understanding
- 5/2014 – 10/2015 Bill & Melinda Gates Foundation OPP1108199
Role: PD/PI (with Jason R. Spence and Blake Wiedenheft)
Grand Challenges Explorations Grant (Round 12)
Title: Engineering human intestinal organoids to model dysbiosis during enteric infection
- 1/2016 – 12/2017 NIH/NIEHS R21ES026411
Role: Contact PD/PI (with Timothy McDermott)
Exploratory/Development Grant

Title: Arsenical production in germ free and humanized mice
1/2016 – 12/2017 USDA/NIFA 2016-69003-24616
Role: PI
Seed Grant

Title: Reducing the antibiotic resistance gene reservoir by plasmid curing
6/2016 - 5/2017 NIH/NIAID R03AI126271
Role: PD/PI (with Carl Yeoman, contact PI)
Small Research Grant

Title: Optimization of a murine model of the human vaginal microbiome: A much needed tool for understanding the connections between vaginal microbes and host health
4/2017 – 3/2019 USDA/NIFA 2017-67018-26367
Role: Co-PI (with Carl Yeoman and Mary Miles, contact PI)
Seed Grant

Title: Determining the Gut Microbiota-dependent Impacts of Anthocyanin-rich Aronia Berries on Obese Individuals of Distinct Inflammatory Phenotypes
7/2018 – 6/2019 NIH/NIEHS R13ES029390
Role: Contact PD/PI
Conference and scientific meetings grant

Title: Environmental toxins and the gut microbiome
8/2017 – 7/2022 NIH/NCI R01CA215784
Role: Contact PD/PI (with Timothy McDermott)
Title: Mechanisms of arsenic detoxification by the human microbiome

9/2017 – 7/2019 NIH/NIDDK R21DK114607 (no cost extension)
Role: PD/PI (with Jennifer L. Dubois, contact PD/PI)
Title: Understanding the contributions of commensal bacteria to human Fe metabolism

9/2018 – 5/2023 NIH/NIDDK R01DK117473
Role: PD/PI (with Valerie Copie and Frances Lefcort, contact PD/PI)
Title: Metabolic control of gut-brain axis in Familial Dysautonomia

8/2019 – 7/2022 NIH/NIEHS R01ES030940
Role: Co-Investigator (Matthew Rand, PD/PI)
Title: Microbial mechanisms of methylmercury metabolism in humans

9/2019 – 6/2024 NIH/NIBIB U01EB029242
Role: Contact PD/PI (with Diane Bimczok, and James N. Wilking)
Title: Integration of mononuclear phagocytes into the human gastrointestinal GOFLOWChip for investigation of luminal antigen sampling

10/2020 – 9/2022 NIH/NIAID

Role: Contact PD/PI (with Evgeni V. Sokurenko)

Title: Decolonization of fluoroquinolone resistant *Escherichia coli* from the human gut

Instrumentation Grants:

11/2016 – 10/2017 National Science Foundation, Major Research Instrumentation Grant 1039785

Role: Co-PI (James Wilking, PI)

Title: Acquisition of optical coherence tomography at Montana State University

Amount: \$105,000

12/2016 – 5/2019 MJ Murdock Charitable Trust

Role: Co-PI (with Diane Bimczok, PI)

Title: Cell and molecular fluorescence imaging facility phase V – Enhanced imaging and phenotyping

Amount: \$241,852

9/2017 – 8/2019 National Science Foundation, Major Research Instrumentation Grant 1726561

Role: Co-PI (with Robin Gerlach, Co-PI; Matthew Fields, Co-PI; and Roland Hatzenpichler, PI)

Title: Acquisition of a confocal raman microscope with cell-sorting capability at Montana State University

Amount: \$354,758

Contracted/Consulting Services:

2013 Aerpio Therapeutics Inc.

Service: Testing service for the efficacy of AKB-4924 against *Clostridium difficile* infection in mice

Total: \$11,000

2015 C3Jian Inc.

Service: Supply *Clostridium difficile* isolates from a multicenter surveillance study in the United State

Total: \$3,500

2016 Kevin W. Garey, University of Houston School of Pharmacy

Service: Testing service for modeling *Clostridium difficile* infection in germ free mice

Total: \$20,000

2017 Paul E. Carlson, Jr., Food and Drug Administration

Service: Derivation and supply of transgenic and wild-type, germ free mice

Total: \$23,065

2017 David R. Snyderman, Tufts Medical Center

Service: PCR Ribotyping of *Clostridium difficile* isolates for two Phase II clinical trials

Total: \$10,000

2018

Paul E. Carlson, Jr., Food and Drug Administration

Service: Derivation and supply of transgenic and wild-type, germ free mice

Total: \$25,600

2019

KC Harvey LLC.

Service: Fecal coliform testing of wastewater and pathogen identification

Total: \$5,000

Teaching Experience:

2008-2010, University of Michigan

Assistant Instructor for Eukaryotic Microbial Symbioses (MMG460/IntMed460)

I taught 3 lectures (90 minutes) per semester on GI tract microbial ecology. This is an upper level undergraduate course.

2013-2017, Montana State University

Instructor of General Microbiology (BIOM360)

This is a 5-credit course comprised of 3 50-minute lectures and 2 2-hour laboratories per week over a 15-week semester. It is a core course requirement for microbiology undergraduate majors and an elective for other science and non-science majors. I co-instruct this course with two faculty colleagues, and our time is split equally among 3 lectures per week and supervision of 4 laboratory sections.

2013-present, Montana State University

Co-Instructor of Animal-Associated Microbial Ecosystems (BIOM405/MB505)

This is a 4-credit course for graduate and upper-level undergraduate students. I co-instruct this course with two faculty colleagues, and our time is split equally among 3 lectures and one laboratory per week.

2013-present, Montana State University

Guest lecturer in Introduction to Biotechnology (BIOB 105)

This is an introductory course for undergraduates that overviews techniques and processes involved with biotechnology, with a particular emphasis on research.

2014-present, Montana State University

Guest lecturer in Careers in Microbiology (BIOM 101)

This is an introductory course for undergraduates that overviews various occupations of microbiologists, drawing on the diverse expertise around the Montana State University campus.

2015-present, Montana State University

Guest lecturer in Medical Microbiology (BIOM 400)

This is an upper-level undergraduate course covering selected viral, bacterial, and protozoan human pathogens, emphasizing disease process and immune responses.

2015-present, Montana State University

Guest lecturer in Immunology (BIOB 410)

This is an upper-level undergraduate course covering the fundamentals of cellular and molecular immunology, including T-cell biology, major histocompatibility antigens, regulation of the immune response, transplantation, and immunological diseases.

2015-present, Montana State University

Guest lecturer in Clinical Laboratory Science Summer Practicum (BIOH 470)

This is a clinical laboratory science course that includes lecture and laboratory instruction in clinical immunohematology, clinical chemistry, phlebotomy, clinical hemostasis, clinical microscopy and urinalysis, clinical body fluids, transfusion techniques, and clinical microbiology.

2018-present, Montana State University

Instructor of Microbiology Capstone (BIOM 494)

This is a 1-credit course for senior-level Microbiology & Immunology undergraduates and is a requirement for graduation. Students prepare and deliver two scientific presentations as well as review presentations by their peers.

2018-present, Montana State University

Instructor of Introductory Programming for Biologists (BIOM491/MB591)

This is a 3-credit course for upper-level undergraduate and graduate students. The courses are co-convened and is entirely computer laboratory focused. Students obtain introductory knowledge of Python, R, and basic command line programming. Graduates also complete an in-depth project based on their own data.

Graduate Student Instruction (Major advisor or co-advisor*):

Stephen Olshefsky, M.S., Microbiology and Immunology, Summer 2015

Nickolas Pinkham, M.S., Microbiology and Immunology, Summer 2017

Michael Coryell, Ph.D., Molecular Bioscience Program, Microbiology and Immunology, August 2019

Jonathan Martinson, Ph.D., Microbiology and Immunology, Dec 2019 (expected)

Brittany Jenkins*, Ph.D., Molecular Bioscience Program, Microbiology and Immunology, May 2020 (expected)

Benjamin Dueling*, Ph.D., Molecular Bioscience Program, Microbiology and Immunology, May 2023 (expected)

Joshua Matt*, Ph.D., Microbiology and Immunology, Spring 2024 (expected)

Genevieve Coe, Ph.D., Microbiology and Immunology, Spring 2023 (expected)

Lila Bullchief, M.S., Microbiology and Immunology, Spring 2021 (expected)

Postdoctoral Fellow Mentorship:

Barbara A. Roggenbeck, Ph.D., February 2018 – present

Qian Wang, Ph.D., January 2018 – present

Jingxin Xi, Ph.D., September 2018 – present

Competitive Mentee Awards:

MSU Department of Microbiology & Immunology, Irving L. Weissman Undergraduate Biomedical Research Support Fund (2014) awarded to **Jonathan Martinson** for exemplary academic and **undergraduate research** performance in the Walk Lab. This is the most prestigious undergraduate research award from the MSU Department of Microbiology & Immunology.

NIH/NIEHS (2016), National Research Service Award (F31ES026884) to support **Ph.D. training of Michael Coryell** in the Walk Lab.

MSU Kopriva Graduate Student Fellowship (2018) awarded to **Jonathan Martinson** to recognize and support the **Ph.D. research** of an outstanding graduate student in the areas of physiology and/or biochemistry. This is a highly competitive award and the most prestigious graduate fellowship awarded at MSU.

MSU Cole-Tierney Award (2018) given to **Brittany Jenkins** in recognition of excellence in her **Ph.D. research**. This is a highly competitive research and/or travel award given to MSU graduate students to support the goals of their dissertation research.

MSU Department of Microbiology & Immunology, Outstanding Senior Award (2018) awarded to **Hannah Cho** for exemplary **all-around academic and research performance** by a senior-level undergraduate.

MSU Department of Microbiology & Immunology, Outstanding Senior Award (2019) awarded to **Garrett Peters** for exemplary **all-around academic and research performance** by a senior-level undergraduate.

Cameron Presidential Scholarship (2019) awarded to **Garrett Peters for academic achievement, demonstrated leadership, and a commitment to public service**. This is MSU's most prestigious academic scholarship and supports recipients financially for an entire academic year.

Barry Goldwater Scholarship (2019) to support the **undergraduate research and training of Garrett Peters**. Garrett was one of 493 awardees selected from a pool of more than 5,000 applicants nominated by 443 academic institutions across the US.

Undergraduate Research Mentorship:

Independent Research Projects (BIOM 490R):

Morgan Derby (2014)

Annie Liotta (2014)

Jacob Burgess (2016)

Garrett Peters (2016)

Roxanna Condon (2016)

Chelsie Wharton (2017)

Casey Adams (2017)

Undergraduate Scholars Program/INBRE:

Sean Stettner, 2013-2014

Jonathan Martinson, 2014

Anne Andrechak, 2014-2015
Arielle Potter, 2014-2015
Thayne Ekness, 2015
Delancey Doty, 2016
Andrew Helming, 2016
Jeremy Heng, 2017
Hanbyul (Hannah) Cho, 2018-2019
Garrett Peters, 2018-2019
Heather Cox, 2018-2019

Hughes Scholars:

Kaitlyn Okrusch, 2014-2015
Trisheena Kills Pretty Enemy, 2015-2016

McNair Scholar:

Trisheena Kills Pretty Enemy, 2016-2019
Autumn Schram, 2017-2018

BRIDGES to Baccalaureate Program Fellows:

Raymond White, 2013
Trisheena Kills Pretty Enemy, 2014
Sherri D. Cree Medicine, 2015
Ashley A. Whitewolf-Lone Elk, 2016
Kassie Big Man, 2017

Visiting Undergraduate Fellows:

Jessica Eggers, Stanford University, Summer 2017

University Leadership and Service:

2013 – 2015	Co-leader of MSU Department of Microbiology & Immunology journal club
2013 – present	Co-director of MSU Department of Microbiology & Immunology seminar series
2014 – 2017	Co-director of the MSU Molecular Biosciences Program
2013 – 2014	Search committee member for the MSU Department of Microbiology & Immunology Department Head
2015 – 2016	Search committee member for the MSU Department of Microbiology & Immunology Environmental Microbiologist

- 2015 Search committee member for the MSU Department of Microbiology & Immunology Fiscal Operations Manager
- 2016 – 2017 Faculty Senate Representative for the MSU Research Council
- 2017 – present Director, Environmental Health Program
- 2018 – present Accreditation of Environmental Health Program through the National Environmental Health Science and Protection Accreditation Council
- 2017 Search committee member for the MSU Attending Veterinarian
- 2019 Search committee co-chair for the MSU Department of Microbiology & Immunology Environmental Microbiologist

Community Leadership:

- 2016 – present Gallatin City-County Board of Health, Representing City Commission
- 2017 – present Gallatin City-County Board of Health, Environmental Health Subcommittee
- 2019 – present Gallatin City-County Board of Health, Budget Subcommittee

Service to the Scientific Community:

Editorial Activities:

- 2011 Bacterial Population Genetics: A Tribute to Thomas S. Whittam. Edited by **Seth T. Walk** and Peter C. H. Feng. 2011. ASM Press. Washington, DC. ISBN 978-1-55581-535-6.
- 2015 – present Associate Editor for *EcoSal Plus* - Domain 9 (Life in Communities and the Environment)
- 2020 – present Editorial Board of *Toxicological Sciences*

Journal Peer Review:

Environmental Microbiology, Microbiology, Applied and Environmental Microbiology, Journal of Clinical Microbiology, Journal of Bacteriology, Infection and Immunity, Gastroenterology, Diagnostic Microbiology and Infectious Disease, Journal of Infectious Diseases, Journal of Applied Microbiology, Journal of Molecular Epidemiology, and Evolutionary Genetics of Infectious Diseases, FEMS Microbiology Letters, mSphere, Neurotoxicology.

Awards:

- 2014 Kopriva MSU Lectureship in Interdisciplinary Biomedical Sciences
- 2017 Department of Microbiology & Immunology Faculty Colleague of the Year Award

Memberships:

- American Society for Microbiology
- Anaerobe Society of the Americas