



CURRICULUM VITAE

SETH TAYLOR WALK, PH.D.
ASSISTANT PROFESSOR
DEPARTMENT OF MICROBIOLOGY & IMMUNOLOGY
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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

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: 17687024.
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-toxigenic *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, Koplaku 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 Control 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**. *J Clin Microbiol*. 2015. Apr;53(4):1192-7. PMID:25631804.
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. *Clin Infect Dis*. 2015. ePub ahead of print. PMID: 25828993.

Book Chapters:

- Alm E. W., **S. T. Walk**, D. M. Gordon. 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, T. E., M. A. Davis, **S. T. Walk**. 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, G. S., A. C. Springman, L. M. Ouellette, L. Wick, W. Qi, S. K. Vanaja, T. M. Bergholz, D. W. Lacher, **S. T. Walk**, J. A. Tietjen, H. Steinsland, J. T. Riordan, S. D. Manning. 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.

Editorial Pursuits:

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.

Poster Presentations:

- 2001 **Walk, S. T.** T. S. Whittam. 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, S. T.**, S. D. Reid, C. J. Herbelin, T. S. Whittam. Fitness advantage of an RpoS mutant in a fluctuating environment. American Society for Microbiology General Meeting, Salt Lake City, Utah.
- 2003 Large, T. M., S. R. Birkeland, K. E. Hyma, **S. T. Walk**, T. S. Whittam. 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, S. T.**, L. M. Calhoun, L. J. DeRose-Wilson, E. W. Alm, T. S. Whittam. 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, S. T.**, L. M. Calhoun, L. J. DeRose-Wilson, E. W. Alm, T. S. Whittam. Genetic diversity of environmental *Escherichia coli* isolated from beaches along Lake Huron, Michigan. American Society for Microbiology General Meeting, New Orleans, Louisiana.
- 2005 **Walk, S. T.**, L. E. Keinath, S. Sankaralingam, J. M. Mladonicky, T. M. Large, E. W. Alm, T. S. Whittam. Genetic characterization and phenotypic diversity of *Escherichia coli* from freshwater beaches. American Society for Microbiology General Meeting, Atlanta, Georgia.
- 2006 **Walk, S. T.**, J. M. Mladonicky, K. Sato, T. S. Whittam. Organic agricultural effects on the phylogenetic composition of *Escherichia coli* populations from dairy cattle. American Society for Microbiology General Meeting, Orlando, Florida.
- 2009 **Walk, S. T.**, F. Koplaku, J. Opp, A. Bloom, J. Weinstock, V. B. Young. 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., **S. T. Walk**, V. B. Young, P. Higgins. 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 J. L., T. E. Besser, **S. T. Walk**, D. M. Gordon. 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., **S. T. Walk**, J. M. Tiedje, K. T. Kostantinidis. Genomic characterization of environmental *Escherichia* lineages and their comparison against gastrointestinal *E. coli*. American Society for Microbiology General Meeting. San Diego, California.
- 2010 **Walk, S. T.**, D. M. Aronoff, V. B. Young. 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, A. M., **S. T. Walk**, V. B. Young. Characterization of the human gut microbiota in patients with norovirus. Keystone Symposia: Microbial Communities as Drivers of Ecosystem Complexity. Breckenridge, Colorado.
- 2011 **Walk, S. T.** 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, S. A., **S. T. Walk**, D.A. Aronoff, V. B. Young. 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, S. T.**, V. B. Young, D. M. Aronoff. 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, S. T.**, P. N. Malani, D. M. Aronoff. 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, A. A., J. Chludzinski, E. Lu, S. A. Ewing, S. Waslawski, D. W. Newton, V. B. Young, D. M. Aronoff, **S. T. Walk**. 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., **S. T. Walk**, D. Micic, C. E. Chenoweth, L. Deng, R. Jain, I. Trivedi, M. Yu, C. Ring, V. B. Young, G. Huffnagle, D. M. Aronoff. Procalcitonin levels correlate with severity in cases of *Clostridium difficile* infection. September 9-12. ICAAC. San Francisco, CA.
- 2012 Yu, M. A., **S. T. Walk**, M. Tupps, C. Ring, T. Horwedel, D. M. Aronoff, J. L. Nagel. Recurrent *Clostridium difficile* Infections (CDI) in Solid Organ Transplant (SOT) Recipients. September 9-12. 52nd ICAAC. San Francisco, CA.
- 2012 Chesnel, L., A. E. Crist, R. M. Patti, D. R. Snyderman, **S. T. Walk**, J. Kishel. 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., D. Berland, C. Young, **S. T. Walk**, D. Newton. 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., S. C. Broadaway, M. McAlpine, P. C. Schreckenberger, K. McKinley, **S. T. Walk**. 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., S. C. Broadaway, A. Potter, E. W. Alm, **S. T. Walk**. Multi-locus sequence typing of *Escherichia coli* isolates from freshwater sediment. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.
- 2014 Martinson, J., S. C. Broadaway, R. Wilkinson, B. Wiedenheft, **S. T. Walk**. Inactivation of *Clostridium difficile* toxin gene, *tcdB*, using CRISPR mutagenesis. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.
- 2014 Stettner, S., S. C. Broadaway, M. McAlpine, P. C. Schreckenberger, K. McKinley, **S. T. Walk**. Molecular typing of carbapenemase-producing *Klebsiella pneumoniae* isolates by plasmid diversity analysis. April. Undergraduate Scholars Program Student Research Celebration. Bozeman, MT.
- 2014 Martinson, J., M. J. Alam, M. Khaleduzzman, K. W. Garey, J. Schlackman, J. W. Marsh, V. B. Young, S. C. Broadaway, **S. T. Walk**. A multicenter, blinded portability study of fluorescent PCR ribotyping for *Clostridium difficile*. American Society for Microbiology General Meeting. Boston, MA.

Invited Seminars/Lectures/Workshops:

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. 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

9/30/14, Department of Plant Sciences & Plant Pathology Seminar Series, Montana State University, Bozeman, MT

Title: Germ free models for studying host-associated microbiomes

10/18/14, Crohn's and Colitis Education Conference, Crohn's and Colitis Foundation of American, Bozeman Deaconess Hospital, Bozeman MT

Title: IBD and the microbiome

11/24/14, Division of Biological Sciences Seminar Series, University of Montana, Missoula, MT

Title: Germ free models for human microbiome research

2/12/15, Kopriva MSU Faculty Lectureship in Interdisciplinary Biomedical Sciences, College of Letters & Sciences, Montana State University, Bozeman, MT

Title: Your body of bugs; Some good, bad, and revolutionizing attributes of the human microbiome

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

Teaching Experience:

Fall 2000, Pennsylvania State University

Teaching Assistant for Introductory Biology (Bio110)

I was responsible for presenting recitation of lecture material and preparing/grading quizzes and exams for a class of 15 undergraduate students of science and non-science majors.

Fall 2002 and Spring 2003, Michigan State University

Teaching Assistant for Organisms and Populations (BS110)

I developed laboratory exercises, prepared and graded quizzes and exams for two classes of 15 undergraduate students of science and non-science majors.

2004-2005, Michigan State University

Teaching Assistant for Infectious Diseases Laboratory

This 4 hour laboratory was offered twice a semester and fulfilled a required practical exercise for first year medical students at the Michigan State University School of Medicine. I assisted in setting up and teaching laboratory exercises that were focused on the identification of opportunistic and specialist pathogens.

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-present, Montana State University

Co-Instructor of Introductory Microbiology (BIOM 360)

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.

2013-present, Montana State University

Co-Instructor of Animal-Associated Microbial Ecosystems (BIOM 505)

This is a 3 credit course for graduate and upper-level undergraduate students. I co-instruct this course with a colleague, Dr. Carl Yeoman, and our time is split equally among 2 lectures and one laboratory per week.

Fellowships:

Spring/Fall 2004	Research Fellowship (MSU)
Fall 2004	National Academy of Science Student Travel Fellowship for the NAS Colloquium, Systematics and the Origin of Species. On Ernst Mayr's 100 th Anniversary
Spring/Fall 2005	Research Fellowship (MSU)
Spring 2005	EEBB Student Travel Fellowship for the 105 th General Meeting of the American Society for Microbiology
Spring 2005	Zoology Department Travel Fellowship for the 105 th General Meeting of the American Society for Microbiology
Spring/Fall 2006	Research Fellowship (MSU)
Spring 2007	Research Fellowship (MSU)

Research Support (active grants in *bold 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
9/2013 – 6/2014	Mountain West Research Consortium, Clinical Translational Research – Integrated Network (CTR-IN) Pilot Grant Award Title: Multicenter epidemiology and diagnosis of <i>Clostridium difficile</i> infection
5/2012 – 4/2017	<i>NIH/NIAID K01AI097281</i> Role: PI Mentored Research Scientist Career Development Award (K01) Title: Phylogenomic epidemiology of <i>Clostridium difficile</i>
2/2014 – 1/2016	<i>NIH/NIAID 1R21AI111145</i> Role: Co-PI (with Carl J. Yeoman, Co-PI) Exploratory/Development Grant Title: Microbial polyamine-mediated reductions in vaginal acidity; A mechanistic understanding
5/2014 – 10/2016	<i>Bill & Melinda Gates Foundation OPP1108199</i> Role: PI Grand Challenges Explorations Grant (Round 12) Title: Engineering human intestinal organoids to model dysbiosis during enteric infection

University Committees and Service:

- 2013 – present Co-leader of MSU Department of Microbiology & Immunology journal club
- 2013 – present Co-director of MSU Department of Microbiology & Immunology seminar series
- 2013 – present Executive board member of the MSU Molecular Biosciences Program
- 2013/2014 Committee member for the MSU Department of Microbiology & Immunology department head search
- 2014 Coordinator for Research in Progress (graduate student) seminar, Department of Microbiology & Immunology

Awards and Leadership:

- 1997/1999 Drum Major of the Pennsylvania State University Marching Blue Band
- 1998/1999 Parmi Nous Student Honor Society (Penn State)
- 1998/1999 Lion's Paw Senior Honor Society (Penn State)
- 2004/2005 President of the EEBB Graduate Student Organization (Michigan State)
- 2006 EEBB Student Speaker Award and Fellowship (Michigan State)
- 2014 Kopriva MSU Lectureship in Interdisciplinary Biomedical Sciences

Memberships:

- American Society for Microbiology
- Anaerobe Society of the Americas