

# **Curriculum Vitae (CV)**

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## **Education**

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**EMT-Paramedic**, Tidewater Community College, Virginia Beach, VA 2004

**Bachelor of Science in Health Science**, Old Dominion University, Norfolk, VA 2007  
Major: Community Health  
Minor: Human Resource Management

**Master of Public Health**, University of North Florida, Jacksonville, FL 2009  
Concentration: Health Education/Epidemiology  
Department of Public Health

**Doctor of Philosophy**, Louisiana State University, Baton Rouge, LA 2014  
Degree: Veterinary Medical Sciences  
Department of Pathobiological Sciences

## **Professional Experience**

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**Paramedic Proctor** 2004-2006  
Tidewater Community College, Virginia Beach, VA  
Department of Emergency Medicine

**Graduate Assistant** 2007-2009  
University of North Florida, Jacksonville, FL  
Department of Public Health

**Louisiana Board of Research Fellow** 2009-2014  
Louisiana State University, Baton Rouge, LA  
Department of Pathobiological Sciences

**NIH Ruth L. Kirschstein Postdoctoral Fellow** 2014-2015  
Trudeau Institute, Saranac Lake, NY

**Adjunct Instructor** 2014-2015  
Clarkson University, Potsdam, NY  
Department of Biology

**Postdoctoral Researcher** 2015-2016  
Southern Research, Birmingham, AL  
Department of Infectious Diseases  
Drug Discovery Division

**Assistant Professor** 2016-present  
State University of New York-College of Environmental Science and Forestry, Syracuse, NY  
Department of Environmental Forest and Biology  
Division of Environmental Sciences  
Epidemiology/Disease Ecology

**Adjunct Assistant Professor** 2017-present  
State University of New York-Upstate Medical University, Syracuse, NY  
Department of Microbiology and Immunology

## Courses Taught

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Institution	Course	Date
Clarkson University	BY 490: Biomedical Sciences Term Integrated Research Project	Spring 2015
SUNY-ESF	EFB 360: Epidemiology	Fall 2016-pr
SUNY-ESF	EHS 320: Disease Prevention	Spring 2017-pr
SUNY-ESF	EFB 498: Independent Research in Environmental Biology	Spring 2017-pr
SUNY-ESF	EFB 899: Masters Thesis Research	Fall 2017-pr
SUNY-ESF	EFB 497: Vector-borne and Zoonotic Diseases	Spring 2018-pr
SUNY-ESF	EFB 797: Vector-borne and Zoonotic Diseases	Spring 2018-pr
SUNY-ESF	BTC 298: Research Apprenticeship in Biotechnology	Spring 2018-pr
SUNY-ESF	BTC 498: Research Problems in Biotechnology	Spring 2018-pr
SUNY-ESF	BTC 420: Internship in Biotechnology	Spring 2018-pr
SUNY-ESF	EFB 420: Internship in Environmental and Forest Biology	Fall 2019

## Award and Honors

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- 2005** Dean's List, Old Dominion University  
**2007** Dean's List, Old Dominion University  
**2008** Graduate Student Research Grant, University of North Florida  
**2008** Graduate Research Tuition Wavier Scholarship, University of North Florida  
**2009** Phi Kappa Phi Honor Society, University of North Florida  
**2009** Board of Regents Fellowship, Louisiana State University  
**2010** 6<sup>th</sup> Annual PBS Graduate Student Symposium Outstanding Presentation (2<sup>nd</sup>), Louisiana State University  
**2011** Surgeon General's Certificate of Appreciation For the Outstanding Poster in the Student Category (1<sup>st</sup>), USPHS Scientific & Training Symposium, New Orleans LA  
**2011** Phi Kappa Phi Honor Society, Louisiana State University  
**2014** Ruth L. Kirschstein National Research Service Award T32, Trudeau Institute  
**2015** BioLegend Young Investigator Travel Award  
**2020** Central New York's 40 under 40 Honoree

## Peer-Reviewed Publications

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(\*indicates graduate student)

1. \*Gallo, B.D., Farrell, J.M., **Leydet, B.F.** Use of next generation sequencing to compare simple habitat and species level differences in the gut microbiota of an invasive and native freshwater fish species. PeerJ. (accepted)
2. \*Gallo, B., Farrell, J.M., **Leydet, B.F.** Fish Gut Microbiome: A Primer to an Emerging Discipline in the Fisheries Sciences. Fisheries. 2020 May;45(5): 271-282
3. \*Farovitch, L., Sippy, R., Beltrán-Ayala, E., Endy, T.P., Stewart-Ibarra, A.M. and **Leydet Jr, B.F.** Detection of Antibodies to Spotted Fever Group Rickettsiae and Arboviral Coinfections in Febrile Individuals in 2014–2015 in Southern Coastal Ecuador. The American journal of tropical medicine and hygiene. 2019 Nov;101(5):1087-1090.
4. **Leydet, B.**, Liang FT. Similarities in murine infection and immune response to *Borrelia bissettii* and *Borrelia burgdorferi* sensu stricto. Microbiology. Volume 161, Issue 12, December 2015, Pages 2352-2360
5. Clark, K., **Leydet, B.**, Threlkeld, C. Geographic and Genospecies Distribution of *Borrelia burgdorferi* Sensu Lato DNA Detected in Humans in the United States. Journal of Medical Microbiology. Volume 63, Part 5, May 2014, Pages 674-684
6. **Leydet, B.**, Liang FT. Detection of Lyme *Borrelia* in Questing Ticks and Small Mammals in Louisiana. Journal of Medical Entomology. Volume 51, Number 1, January 2014, Pages 278-282

7. Clark, K., **Leydet, B.**, Hartman, S. Lyme borreliosis in human patients in Florida and Georgia, USA. *International Journal of Medical Sciences*. Volume 10, Issue 7, May 23<sup>rd</sup> 2013, Pages 915-931
8. Goldstein, IM., Black MA., **Leydet, B.**, Vidrine SB. Hitting the Target: Lyme or STARI? *Journal of The Louisiana State Medical Society*. Volume 165, Issue 2, March-April 2013, Pages 83-87
9. **Leydet, B.**, Liang FT. Detection of Human Bacterial Pathogens in Tick Collected from Louisiana Black Bears (*Ursus americanus luteolus*). *Ticks and Tick Borne Diseases*. Volume 4, Issue 3, April 2013, Pages 191–196 (**#13 in Top 25 Hottest Articles in Ticks and Tick-borne Diseases for 2013**)
10. **Leydet, B.**, Kay R. The Burden of *Haemophilus influenzae* (Invasive Disease) in Florida from 2005 to 2008. *Epi Update*. A publication of the Florida Department of Health, Bureau of Epidemiology. November 2009, Pages 1-8

## **Invited Presentations**

- 2010 Council of State and Territorial Epidemiologist Webinar Series, Florida Department of Health. *The Burden of Haemophilus influenzae (Invasive Disease) in Florida from 2005 to 2008*. (August)
- 2015 University of Montreal, Research Group on Epidemiology of Zoonoses and Public Health (GREZOSP), Saint-Hyacinthe, Québec Canada. *Lyme Borreliosis from the Field to the Bench and Beyond*. (September)
- 2016 Alliance Counties Public Health Conference, Syracuse, NY, Tick-borne disease update: Borreliosis including *B. miyamotoi* and *B. mayonii*. (August)
- 2016 Upstate Medical University Department of Medicine-Infectious Disease Division Grand Rounds, Syracuse, NY, *Addressing Knowledge Gaps in Lyme Disease*. (September)
- 2017 Association for Professionals in Infection Control and Epidemiology Heart of New York Chapter 14th Annual Teaching Day, Verona, NY. *Tick-Borne Diseases A Growing Public Health Threat*. (March)
- 2017 SUNY-ESF 9<sup>th</sup> Annual Biotechnology Symposium, SUNY-ESF, Syracuse NY. Plenary Panel Member: *Addressing infection challenges to public health from problem identification to treatment*. (May)
- 2017 Queens University, Queens University Biological Station (QUBS), Kingston, Ontario Canada, *Novel approaches to better understand Lyme disease transmission, infection, and ecology*. (July)
- 2017 Spirochete Day. *Tick borne disease research on "The Hill"*. Spirochete Day, Wadsworth Center, Albany NY, (August)
- 2018 Alliance Counties Public Health Conference, Syracuse, NY. Tick-borne diseases in Upstate New York (August)
- 2018 American Society of Microbiologist 53rd Annual Regional Meeting Eastern NY Branch, Albany Marriott Hotel, Albany, NY. Vector competence of *Ixodes scapularis* for *Borrelia bissettiae*: A model for comparative genomics? (October)
- 2019 Conversation on Spirochetes, University of Buffalo, Buffalo NY. *Borrelia burgdorferi* dynamics in tick and deer "poor" sites (September)

## **Conference Presentations** (\*indicates graduate student, †indicates undergraduate Student poster and presentation. Underline indicates presenter)

- 2008 American Public Health Association 135<sup>th</sup> Annual Meeting, San Diego CA, October 2008. *Genomics Education and Training needs of U.S. Health Educators: a qualitative study*. Chen, L.S., **Leydet, B.**, Goodson, P. [Poster]
- 2008 Society for Vector Ecology 40<sup>th</sup> Annual Meeting, Fort Collins CO, September 2008. *Lyme Borrelia strains from humans in the United States reveals more than one genetic group associated with disease*. Clark, K., Threlkeld, C, **Leydet, B.**, Phillips, P., Watsky, A. [Poster]
- 2009 American Alliance for Health, Physical Education, Recreation and Dance 124<sup>th</sup> National Convention and Exposition, Tampa FL, March 2009. *Needs assessment study of genetics/genomics education for U.S. health educators*. Chen, L.S., Goodson, P, **Leydet, B.** [Poster]
- 2010 6th Annual PBS Graduate Student Research Symposium, LSU, May 2010. *The First Evidence of Lyme Borrelia in Louisiana Ticks*. **Leydet, B.**, Liang FT. (**2nd Place Oral Presentation**)
- 2010 Phi Zeta Research Emphasis Day, LSU, September 2010. *Evidence towards the Existence of an Enzootic Cycle of Lyme Borreliae in Louisiana Ticks and Wildlife*. **Leydet, B.**, Liang FT. [Poster]

- 2010 Council of State and Territorial Epidemiologist Annual Conference, Portland OR, June 2010. *The Burden of Haemophilus influenzae (Invasive Disease) in Florida from 2005 to 2008*. **Leydet, B., Kay R.** [Poster]
- 2011 7th Annual PBS Graduate Student Research Symposium, LSU, May 2011. *Endosymbiotic and Pathogenic Bacteria in Ticks collected from Louisiana Black Bears (Ursus americanus luteolus)*. **Leydet, B., Liang FT.**
- 2011 Phi Zeta Research Emphasis Day, LSU, September 2011. *Endosymbiotic and Pathogenic Bacteria in Ticks collected from Louisiana Black Bears (Ursus americanus luteolus)*. **Leydet, B., Liang FT.** [Poster]
- 2011 Meriel-NIH Veterinary Scholars Program Symposium, Gainesville FL, July 2011. *Prevalence of Ehrlichia canis and Anaplasma platys infection in ticks & dogs in southern Louisiana*. \***Woods, S., Leydet, B., Gaunt, S.** [Poster]
- 2011 United States Public Health Service's Scientific and Training Symposium, New Orleans LA, June 2011. *Evidence of Lyme Borrelia in Louisiana Ticks and Wildlife*. **Leydet, B., Liang FT. (Surgeon General's Award for Best Poster)** [Poster]
- 2012 8th Annual PBS Graduate Student Research Symposium, LSU, May 2012. *Characterizing Borrelia bissettii in a Tick-Murine Transmission Model*. **Leydet, B., Liang FT.**
- 2012 American Society of Microbiologists, South Central Branch Meeting, Starkville MS, October 2012. *Coinfection and Population Dynamics of Borrelia burgdorferi and Borrelia bissettii in a Tick-Murine Borreliosis Model*. **Leydet, B., Liang FT.** [Poster]
- 2012 Phi Zeta Research Emphasis Day, LSU, September 2012. *Coinfection and Population Dynamics of Borrelia burgdorferi and Borrelia bissettii in a Tick-Murine Borreliosis Model*. **Leydet, B., Liang FT.** [Poster]
- 2012 Society for Vector Ecology, 44<sup>th</sup> Annual Conference, St. Augustine FL, September 2012. *Coinfection and Population Dynamics of Borrelia burgdorferi and Borrelia bissettii in a Tick-Murine Borreliosis Model*. **Leydet, B., Liang FT.** [Poster]
- 2012 Gordon Research Conference, Biology of Spirochetes, Ventura Beach CA, January 2012. *Borrelia coinfection and its influence on transmission and infection in a murine-tick borreliosis model*. **Leydet, B., Liang FT.** [Poster]
- 2013 Entomological Society of America, South Eastern Branch Meeting, Baton Rouge LA, February 2013. *Coinfection and Population Dynamics of Borrelia burgdorferi and Borrelia bissettii in a Tick-Murine Borreliosis Model*. **Leydet, B., Liang FT.**
- 2013 9th Annual PBS Graduate Student Research Symposium, LSU, May 2013. *Infection and Population Dynamics of Borrelia bissettii in a Tick-Murine Borreliosis Model*. **Leydet, B., Liang FT.**
- 2013 Phi Zeta Research Emphasis Day, LSU, September 2013. *Infection and Population Dynamics of Borrelia bissettii in a Tick-Murine Borreliosis Model*. **Leydet, B., Liang FT.** [Poster]
- 2013 International Conference on Lyme Borreliosis and Other Tick-Borne Diseases, Boston MA, August 2013. *Infection and Population Dynamics of Borrelia bissettii in a Tick-Murine Borreliosis Model*. **Leydet, B., Liang FT.** [Poster]
- 2013 International Conference on Lyme Borreliosis and Other Tick-Borne Diseases, Boston MA, August 2013. *Infection and Anti-C6 Antibody Response of Mice to Six Different North American Isolates of Borrelia burgdorferi sensu lato*. **Leydet, B., Liang FT.** [Poster]
- 2014 American Society of Microbiologists, Eastern New York Branch Meeting, Albany NY, October 2014. *The ecology of range-limits of Borrelia burgdorferi and Ixodes scapularis in northern New York State*. **Leydet, B., Lanthier, S., Atkinson, C., Durfey, S., King, C., Tudor, T., Prusinski, M. A., Meehan, L.J., Harper, E., Sporn, L., Patrick, D.A., Backenson, P.B., Sellati, T.J.** [Poster]
- 2014 Gordon Research Seminar and Conference, Biology of Spirochetes, Ventura CA, January 2014. *Infection and anti-C6 antibody response of Mice to Five Different North American Isolates of Borrelia burgdorferi sensu lato*. **Leydet, B., Liang FT** [Poster]
- 2015 New York State Department of Health Tick-Borne Disease Workshop, Albany NY, March 2015. *An Initial Glimpse into the Population Genetics of Ixodes scapularis in Northern New York*. **Leydet, B.**
- 2015 Society for Vector Ecology 46<sup>th</sup> Annual Conference, Albuquerque NM, September 27<sup>th</sup>-October 1<sup>st</sup> 2015. *Expansion of the Lyme disease vector (Ixodes scapularis) and emergence of its associated pathogens in New York's Adirondack Park*. **Leydet, B., Lanthier, S., Elmore, B., Fantone, K., Naccari, C., Toth, Prusinski, M.A., Meehan, L.J., Backenson, P.B., Sellati, T.J.** [Poster]

- 2015 Clarkson University 17<sup>th</sup> Annual Spring 2015 Symposium on Undergraduate Research Experiences (SURE), Potsdam NY, April 2015. *Invasion of a vector-borne disease: Lyme disease in the North Country*. †Elmore, †B., Fantone, †K., Naccari, C., †Toth, M., Lanthier, S., **Leydet, B.**, Sellati, T.J. (**Best Poster in Ecological Sciences Category**) [Poster]
- 2016 Gordon Research Seminar and Conference, Biology of Spirochetes, Ventura CA, January 2016. *Zebrafish Model of Lyme Borreliosis: A 'Window' Into Borrelia-burgdorferi-Phagocyte Interactions*. **Leydet, B.**, Giffune, A., Wallace, K., Sellati, T.J. [Poster]
- 2016 Gordon Research Conference, Biology of Spirochetes, Ventura CA, January 2016. *Expansion of the Lyme disease vector (Ixodes scapularis) and emergence of its associated pathogens in New York's Adirondack Park*. **Leydet, B.**, Lanthier, S., Elmore, B., Fantone, K., Naccari, C., Toth, Prusinski, M.A., Meehan, L.J., Backenson, P.B., Sellati, T.J. [Poster]
- 2017 SUNY-ESF Spotlight on Student Research, Syracuse NY, April 25th 2017. *Monitoring Phenotypic Transitions of Borrelia burgdorferi Under Normal and Nutrient Limiting Conditions*. †**Christiano, A.**, **Leydet, B.** [Poster]
- 2017 SUNY-ESF Spotlight on Student Research, Syracuse NY, April 25th 2017. *Quantifying Borrelia burgdorferi biofilm formation in vitro*. †**Sorlie, A.M.**, **Leydet, B.** [Poster]
- 2017 Using a Medical Ecological Approach to Assess Tick-Borne Disease (TBD) in Tropical and Non-Tropical Environments. Rochester Summer Research Training Institute, June 2017, University of Rochester, Rochester, NY. \***Farovitch, L.**, **Leydet, B.**, Miller, B., Dye, T. [Poster]
- 2018 Using a Medical Ecological Approach to Assess Tick-Borne Disease (TBD) in Tropical and Non-Tropical Environments. Translational Biomedical Science Retreat, September 2018, University of Rochester, Rochester, NY. \***Farovitch, L.**, **Leydet, B.**, Miller, B., Dye, T. [Poster]
- 2018 A Novel Approach to Compare Gut Microbiota Between Fish Species in the Upper St. Lawrence River using Next Generation Sequencing (NGS) Technologies. 52nd Annual Meeting of the New York Chapter of American Fisheries Society, February 7th-9th 2018, Cooperstown NY. \***Gallo B.**, Farrell J, **Leydet B.** [Poster]
- 2018 Surveillance of Global Tick-borne Diseases (TBD) in Ecological Context: Geographic Distribution, Novel Biodiagnostic Testing, and Preventive Strategies for the Deaf Population. Association for Clinical And Translational Science Annual Meeting, April 19-21 2018, Washington DC. \***Farovitch, L.**, **Leydet, B.**, Miller, B., Dye, T. [Poster]
- 2018 *Borrelia miyamotoi* Exposure in White-Tailed Deer From New York, United States. Summer Undergraduate Research Symposium August 9<sup>th</sup>, Gateway center SUNY-ESF Syracuse NY. †**Kettenburg G.**, Sarwar Z., **Leydet B.** [Poster]
- 2018 Elucidating Borrelia Burgdorferi sensu stricto Outer Surface Protein C (ospC) Genotypes in Birds, Small Mammals, and Ixodes Scapularis Ticks by Terminal Restriction Fragment Length Polymorphism (T-RFLP) Summer Undergraduate Research Symposium August 9th, Gateway center SUNY-ESF Syracuse NY. †**Schmitt L.**, Lanthier S., Gielow K., **Leydet B.** [Poster]
- 2018 The Fish Gut Microbiome: Use of Next Generation Sequencing (NGS) to Examine Gut Microbial Community Patterns Among Fishes and Sampling Habitat. 148th Annual Meeting of the American Fisheries Society August 19-23, 2018 Atlantic City Convention Center, Atlantic City, NJ. \***Gallo B.**, Farrell J, **Leydet B.** (**Accepted for Best Student Paper Presentations**)
- 2018 The Fish Gut Microbiome: Implications of Using of Next Generation Sequencing (NGS) to Examine Microbial Community Patterns and Bacterial Infections. American Society of Microbiologist 53rd Annual Regional Meeting October 16, 2018 Eastern NY Branch Albany Marriott Hotel, Albany, NY. \***Gallo B.**, Farrell J, **Leydet B.** [Poster]
- 2018 Tick-borne Disease in Southern Coastal Ecuador: Detection of Antibodies to Spotted Fever Group Rickettsia in Febrile Individuals in 2014-2015. American Society of Microbiologist 53rd Annual Regional Meeting October 16, 2018 Eastern NY Branch Albany Marriott Hotel, Albany, NY. \***Farovitch, L.**, Stewart-Ibarra, A.M., Beltran-Ayala, E., Endy T.P., **Leydet, B.** [Poster]
- 2018 Using Medical Ecology Model to Develop a Research Plan in Surveillance of Global Tick-borne Diseases (TBD) in Ecological Context. American Public Health Association Annual Meeting November 10-14<sup>th</sup> San Diego Convention Center, San Diego CA. \***Farovitch, L.**, Dye, T., Miller, B., **Leydet, B.** [Poster]

- 2018** Tick-borne Disease in Southern Coastal Ecuador: Detection of Antibodies to Spotted Fever Group Rickettsia in Febrile Individuals in 2014-2015. American Society of Tropical Medicine and Hygiene 67th Annual Meeting October 28 – November 1, 2018 Sheraton New Orleans and New Orleans Marriott New Orleans, Louisiana, USA. \*Farovitch, L., Stewart-Ibarra, A.M., Beltran-Ayala, E., Endy T.P., **Leydet, B.** [Poster]
- 2019** Co-infection of *Borrelia burgdorferi*, *Babesia microti*, and Powassan virus in *Ixodes scapularis* from Waverly, Pennsylvania Summer Undergraduate Research Symposium August 8th, Gateway center SUNY-ESF Syracuse NY. †Lange R., Nelson M., **Leydet B.** [Poster]
- 2019** Variations in *Borrelia burgdorferi* Prevalence and Risk between Two Distinct Forest Patches in Close Proximity. Conversation on Spirochetes, September 13<sup>th</sup>-14<sup>th</sup>, University of Buffalo, Buffalo NY. . \*Nelson M., Lanthier S., Lange R., **Leydet B.** [Poster]
- 2019** Co-infection of *Borrelia burgdorferi*, *Babesia microti*, and Powassan virus in *Ixodes scapularis* from Waverly, Pennsylvania. Conversation on Spirochetes, September 13<sup>th</sup>-14<sup>th</sup>, University of Buffalo, Buffalo NY. . †Lange R., Nelson M., **Leydet B.** [Poster]

## **Student Mentorship**

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### **Graduate**

- **Benjamin Gallo**, MS Fish and Wildlife Biology and Management: Diet and Environmental Impacts on the Gut Microbiome of Northern Pike. Graduated 2019.
- **Sarah Lanthier**, MS Fish and Wildlife Biology and Management: Role of tick density and host association in the establishment and distribution of *B. burgdorferi* in the Adirondacks.
- **Miranda Nelson**, MS Fish and Wildlife Biology and Management: Land management and control of *B. burgdorferi* in small mammals and ticks.
- **Amanda Lemoine**, MS Fish and Wildlife Biology and Management: Trophic transfer of gut microbiome in freshwater fish.

### **Undergraduate**

- **Amanda Christiano**, BS Environmental Biology, Minor: Environmental Health: Monitoring Phenotypic Transitions of *Borrelia burgdorferi* Under Normal and Nutrient Limiting Conditions. Graduated 2018.
- **Amelia Sorilee**, BS Environmental Biology: Quantifying *Borrelia burgdorferi* biofilm formation in vitro. Graduated 2018.
- **Isabel Schmitt**, REU SUNY SURF: Elucidating *Borrelia burgdorferi* sensu stricto Outer Surface Protein C (ospC) Genotypes in Birds, Small Mammals, and *Ixodes scapularis* Ticks by Terminal Restriction Fragment Length Polymorphism (T-RFLP).
- **Gwendollen Kettenburg**, REU SUNY SURF: *Borrelia miyamotoi* Exposure in White-Tailed Deer From New York, United States.
- **Nicholas Bentley**, BS Biotechnology & Chemistry (Honors): Genetic Variation in a complement binding gene of *Borrelia burgdorferi* sensu lato. Graduated 2020.
- **Alliyah Au**, BS Biotechnology: *Babesia microti* prevalence in host associated engorged larval ticks in NY. Graduated 2019.
- **Rachel Lange**, BS Biochemistry (Syracuse U): Co-infection of *Borrelia burgdorferi*, *Babesia microti*, and Powassan virus in *Ixodes scapularis* from Waverly, Pennsylvania. Graduated 2020.
- **Makhali Voss**, BS Environmental Biology: Differentiating *Peromyscus* species in time and space. Graduated 2020
- **Crystal Silliman**, BS Biotechnology: *Borrelia burgdorferi* genotype differences in small mammals in different forest types.