

TYLER D. POHLENZ

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EDUCATION

PhD in Entomology (Texas A&M University)

August 2023

Dissertation: "Assessing the effects of heterogeneous microclimate temperatures on the RNA interference pathway of *Aedes aegypti* and its vector competence for Zika virus"

Advisor: Dr. Kevin Myles

Bachelor of Science in Agriculture (Kansas State University)

May 2017

Major: Animal Sciences and Industry, Biotechnology/Bioscience Option

Minor: Entomology

RESEARCH EXPERIENCE

Graduate Research Assistant

Fall 2017 – Summer 2023

Laboratory of Dr. Kevin Myles, Texas A&M University

- Project: Investigated the effect of temperature on the function of the antiviral RNA interference pathway of *Aedes aegypti* and its contribution to vector competence utilizing transgenic and classical virology techniques.
- Research funded through CDC Western Gulf Center of Excellence in Vector-borne Diseases and USDA APHIS NBAF Scientist Training Program

Undergraduate Research Assistant

Fall 2016 – Summer 2017

Insect Microbial Ecology Lab, Kansas State University

Dr. Ludek Zurek

- Led research study on oviposition and larval development of house flies.
- Assisted with field collection and identification of tick species.
- Collection and screening of filth fly species for food-borne bacterial pathogens.

Research Intern

Summer 2016

Lab for Vector Biology and Bacterial Pathogens, Baylor College of Medicine

Dr. Job Lopez

- Conducted independent research involving the use of molecular methods to identify soft tick (*Ornithodoros*) and *Borrelia* species from field collected specimens.

Research Intern

Summer 2015

Insect Microbial Ecology Lab, Kansas State University

Dr. Ludek Zurek

- Worked on faculty-led research project to quantify the spread of pathogenic serotypes of *E. coli* from animal agriculture facilities by house flies (*Musca domestica*).

PUBLICATIONS

Dong, Y., Dong, S., Dizaji, N.B., Rutkowski, N., **Pohlenz, T.D.**, Myles, K., Dimopoulos, G., 2022. The *Aedes aegypti* siRNA pathway mediates broad-spectrum defense against human pathogenic viruses and modulates antibacterial and antifungal defenses. *PLoS Biol* 20, e3001668.

Erraguntla, M., Dave, D., Zapletal, J., Myles, K., Adelman, Z.N., **Pohlenz, T.D.**, Lawley, M., 2021. Predictive model for microclimatic temperature and its use in mosquito population modeling. *Sci Rep* 11, 18909.

Pohlenz, T.D., Zavadilova, K., Ghosh, A., Zurek, L., 2018. Prevalence of Shiga-toxicogenic *Escherichia coli* in House Flies (Diptera: Muscidae) in an Urban Environment. *Journal of Medical Entomology* 55, 436–439.

Bermúdez, S.E., Castillo, E., **Pohlenz, T.D.**, Kneubehl, A., Krishnavajhala, A., Domínguez, L., Suárez, A., López, J.E., 2017. New records of *Ornithodoros puertoricensis* Fox 1947 (Ixodida: Argasidae) parasitizing humans in rural and urban dwellings, Panama. *Ticks and Tick-borne Diseases* 8, 466–469.

PRESENTATIONS

Tyler D. Pohlenz, Byul Hur, Mark Lawley, Madhav Erraguntla, Martin Reyna, Chris Fredregill, Mustapha Debboun, Jeremy Vela, Zach Adelman, and Kevin Myles (November 2020, conference talk). “Effects of heterogeneous microclimate temperatures on the RNA interference pathway of *Aedes aegypti*”. American Society of Tropical Medicine and Hygiene, Virtual meeting.

Tyler D. Pohlenz, Byul Hur, Mark Lawley, Madhav Erraguntla, Martin Reyna, Chris Fredregill, Mustapha Debboun, Jeremy Vela, Zach Adelman, and Kevin Myles (June 2020, accepted as poster presentation, cancelled due to COVID-19 pandemic). “Assessing the contribution of heterogeneous microclimate temperatures on the vector competence of *Aedes aegypti*”. American Society for Virology 39th Annual Meeting, Fort Collins, Co.

Tyler D. Pohlenz, Byul Hur, Mark Lawley, Madhav Erraguntla, Martin Reyna, Chris Fredregill, Mustapha Debboun, Jeremy Vela, Zach Adelman, and Kevin Myles (March 2020, accepted for conference talk, cancelled due to COVID-19 pandemic). “Assessing the contribution of heterogeneous microclimate temperature to the vector competence of *Aedes aegypti*”. Vector-borne Infectious Diseases Nature Conference, Galveston, Tx.

Tyler D. Pohlenz, Byul Hur, Mark Lawley, Madhav Erraguntla, Martin Reyna, Mustapha Debboun, Jeremy Vela, Zach Adelman, and Kevin Myles (February 2019, conference talk). “Assessing the contribution of heterogeneous microclimates to the transmission dynamics of mosquito-borne viral diseases in temperate regions”. CDC Western Gulf Center of Excellence for Vector-borne Diseases satellite meeting, South Padre Island, Tx.

Tyler D. Pohlenz, Byul Hur, Mark Lawley, Madhav Erraguntla, Martin Reyna, Mustapha Debboun, Jeremy Vela, Zach Adelman, and Kevin Myles (January 2019, conference talk). “Predictive Models for the Spread of Mosquito-Borne Disease in Temperate Climates”. Texas 6 Vector workshop, College Station, Tx.

Tyler D. Pohlenz, Byul Hur, Mark Lawley, Madhav Erraguntla, Martin Reyna, Mustapha Debboun, Jeremy Vela, Zach Adelman, and Kevin Myles (February 2018, conference talk). “Predictive Models for the Spread of Mosquito-Borne Disease in Temperate Climates”. CDC Western Gulf Center of Excellence for Vector-Borne Diseases satellite meeting, South Padre Island, Tx.

Tyler D. Pohlenz, Anuradha Ghosh, and Ludek Zurek (June 2016, poster presentation). “The role of *Musca domestica* (Dipteria : Muscidae) in the ecology of STEC-8 in an urban environment”. Poster presented at STEC CAP Grant Annual Conference, Lincoln, Ne.

AWARDS AND FELLOWSHIPS

USDA APHIS NBAF Scientist Training Program Fellow

2019 – Present

College of Agriculture Excellence Scholarship, Kansas State University

2016 – 2017