KANSAS STATE UNIVERSITY

Division of Biology Presents:

What was I Thinking? The Development of a Community Health Program to Prevent La Crosse Encephalitis Infections in the Children of East Tennessee

Monday, February 28, 2022 • 3:30 PM • Zoom

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Eastern Tennessee and western North Carolina account for ~75% of the 80 U.S. cases of La Crosse encephalitis (LACE) each year. LACE symptoms vary, but individuals with compromised immune systems and children less than 15 years of age regularly experience symptoms ranging from a summertime illness to a neuroinvasive disease; sometimes infection leads to death. LACE occurs after the bite of a LACV-infected mosquito; fortunately, research indicates that LACE cases occur at specific sites and can repeat at those same sites. This means we can efficiently and cost-effectively reduce the incidence of LACE if, through surveillance, we quickly identify and efficiently control these mosquitoes. University researchers, working with additional stakeholders, created a 6th-12th grade STEM education program grounded in the best practices of the Next Generation Science Standards using inquiry-driven learning and experiences that open the doors to students' desire to investigate STEM phenomena. Thus far, 15 trained educators (1) guided more than 500 students on classroom independent experiments to monitor and assess mosquito populations at their schools and (2) generated high-quality datasets used by Univ. of Tennessee graduate students and (3) resulting health-communication material will be used by public health professionals. Using these results, we can plan, develop, and evaluate efficient, cost-effective, and targeted mosquito control efforts. Additionally, MEGA:BITESS students who participated increased their STEM knowledge and research experiences, as well as their enthusiasm for and curiosity about the disciplines and subject matter. Students also engaged in additional activities at participating schools by creating their own projects such as submissions to science fair competitions, podcast contests, and school-newspaper articles. Please visit www.megabitess.org for more information on the program.

If you would like to visit with Dr. Rebecca Trout Fryxell, please contact Dr. Kristin Michel at kmichel@ksu.edu.

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