Talk Will Focus on Climate Change and Human Health

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There’s little love for mosquitoes, especially in this time of the Zika virus. But even before news about the virus started hitting the headlines in earnest late last year, mosquitoes had been transmitting all kinds of pathogens among animals and humans. That is why Kacey Ernst takes a special interest in this winged disease vector.

Ernst, an associate professor of epidemiology and biostatistics in the UA Mel and Enid Zuckerman College of Public Health, studies *Aedes aegypti*, a mosquito that carries the Zika virus as well as dengue fever, chikungunya and yellow fever. Currently, her research focuses on the environmental determinants of vector-borne disease transmission and its control, primarily with regard to dengue and malaria.

As part of the annual College of Science Lecture Series, Ernst will discuss how one environmental determinant – climate change – affects the transmission of infectious diseases, such as dengue.

"As humans, we have the capacity to adapt to our changing environment. There are things we can do to minimize the health impacts," Ernst said. "But it requires an investment now in equalizing and promoting health across populations."

The impact of climate change on human health ranges from direct effects, such as heat-related mortality during extreme heat events, to indirect effects on infectious-disease transmission.

Predicting the level of impact that climate change will have on specific health outcomes becomes more difficult as the pathways become more indirect.

One such example is determining the potential risk of dengue emergence in the U.S.?Mexico border region where *Aedes aegypti* mosquito populations that transmit the virus are well-established. A suitable natural environment is necessary but not sufficient for virus transmission. Social, economic and behavioral factors can all enhance or reduce risk.

Ernst's lecture, "Climate Change and Human Health: Impacts and Pathways to Resilience," will be held at UA Centennial Hall on Feb. 22 at 7 p.m. and is free and open to the public. The talk will be streamed live by Arizona Public Media On Demand.

"Some major points that I would like people to take away (from my talk) are that the health effects are many, that science is advancing in our ability to project these outcomes, and that mitigation of climate change can make a significant differences in the severity of outcomes that we might have," Ernst said.

For more information about this lecture and the series, visit [http://uascience.org](http://uascience.org).