



ANNA SANFORD ('18)

PUBLIC HEALTH

Project
*Chagas Disease in New Orleans:
An Opportunity for Student and
Community Training*

Faculty Mentor
Claudia Herrera, Ph.D.

Trypanosoma cruzi is a pathogenic microorganism that cause Chagas disease, an anthroponosis that represents a major public health problem in Latin America. *T. cruzi* is widely distributed throughout the American continent, from the southern regions of the United States (U.S.) to Argentina, and infects at least 6 million people in Latin America. Although the U.S. was initially defined as non-endemic for Chagas disease due to the rare occurrence of human cases, the presence of *T. cruzi* has now been amply demonstrated as enzootic in different regions of the southern half of the country. Much remains unknown about the dynamics of the parasite's transmission among mammals and triatomine vectors in different eco-epidemiological cycles. In southeastern Louisiana, a *T. cruzi* infection rate of 60.4% has been demonstrated in the local vector *Triatoma sanguisuga*, also called the “kissing bug”.

Through CELT funding, we have developed and performed a survey in the West Bank area to determine the community's knowledge, attitudes and practices towards the vector and disease. Resulting from our work in the West Bank, we established a good relationship with the community by collecting data on their perception of Chagas disease and kissing bugs, as well as collecting triatomine samples from their properties. We have collected 71 local kissing bugs that we are analyzing in the lab to determine the genetic diversity of *T. cruzi* in these vectors and to identify their habitats.

The outcomes are expected to be a clear delineation of the complex elements of the relevant natural history and risk of *T. cruzi* transmission to humans in this area. The results from our CELT projects will be utilized to spread awareness on preventing Chagas disease in southeastern Louisiana and as basis for future funding to study the disease and its vector in other areas in Louisiana.

Anna worked in conjunction with Eli Bierman and Sarah Hill.