

• CEB •

MISSION

To catalyze the development of biotechnology in the country linking research and education to benefit the society and the environment.

VISION

To integrate, coordinate, and facilitate the generation and transfer of biotechnology to transform scientific discoveries into applications.



Excelencia que trasciende

DEL VALLE
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Center of Biotechnology Studies



**INSTITUTO DE
INVESTIGACIONES**
UNIVERSIDAD DEL VALLE DE GUATEMALA



Objectives and Research Areas:

Develop multidisciplinary approaches for the control of diseases and insects that affect human health and crop production.

The crop protection unit has an alliance with the sugarcane industry to develop bioinformatics and transgenic strategies as well as biological control of insect pests for crop production improvement.

The human health unit has focused on multidisciplinary studies of Chagas disease, ecology and vector biology, combined with participatory action research, to formulate novel community-appropriate disease control strategies.

A community-based intervention focusing on rodent control was implemented and evaluated, showing that rodent control reduced transmission risk at the household level. (De Urioste-Stone et al "Development of a community-based intervention for the control of Chagas disease based on peridomestic animal management: An eco-bio-social perspective" Transactions of the Royal Society of Tropical Medicine and Hygiene. Accepted for publication October 2014)

A biotechnological control strategy was developed, in collaboration with groups in Brazil, USA, and Canada, by genetically modifying symbiotic bacteria of the insect to produce molecules that silence genes and affect fecundity, having generated a patent application in Brazil. (Taracena et al. "Genetically Modifying the Insect Gut Microbiota to Control Chagas Disease Vectors through Systemic RNAi" PLoS NTDs Accepted for publication October 2014.)



Lines of work

Develop research involving traditional biotechnology methods, focused on the use of genetic engineering, bioinformatics and microbiology in the following lines of research:

- Development of new methods for diseases and vector control.

- Improving crops through molecular methods.

- Applied microbiology.

- Bioinformatics applied to genetics.

- Biotechnology support services.

• Liaise with partners to integrate the center with various disciplines and encourage multidisciplinary research.

• Strengthen the environment to develop research and support biotechnology training and entrepreneurship with multidisciplinary collaboration in the following areas:

• Biotechnology Intellectual property

• Biotechnology entrepreneurship

• Promotion and dissemination of Biotechnology