

Biotechnology Innovation Research



Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco, A.C.

WHO ARE WE?

CIATEJ is a public research center, member of the System of Public Research Centers of the National Council of Science and Technology (CONACYT). The center's goal is to develop innovative solutions in the field of biotechnology to contribute to the country's development. At the same time it provides technical services and trains specialized human resources for the agricultural, food, health and environmental sectors.

Mission

We are a public CONACYT research center that drives technological development throughout the country by generating cutting-edge knowledge and innovative biotechnology applications.

Vision

To be an organization of knowledge and innovation that forms national and international collaboration networks and partnerships with technology companies in order to contribute to the sustainable development of the country.

Institutional Values

Ethics

We are aware that our good ethical behavior equally implies good performance. Our ethical behavior allows us to transform the ordinary into the extraordinary.

Commitment

We go beyond our obligations, because those who are committed to their work enjoy what they do, and that acts as the foundation that leads us to live in harmony with the other members of the organization and with our customers.

Honesty

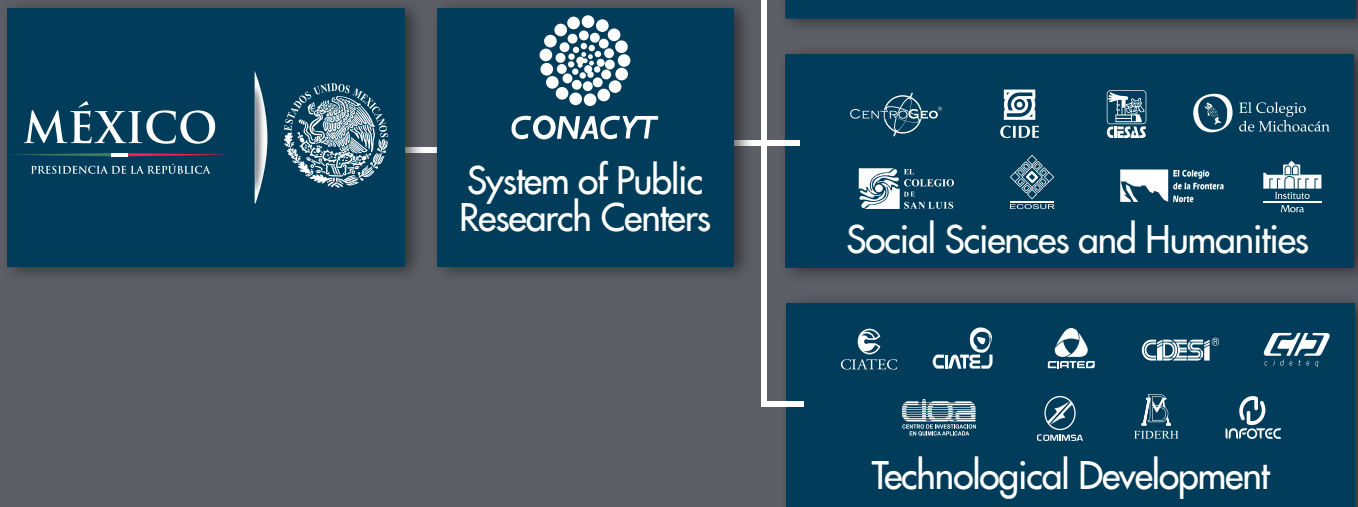
We are transparent in all areas of our daily actions; every day we hope to make honesty a way of life that allows us to achieve consistency between what we think and how we act.

Collaboration

We work as a team to achieve our goals and satisfy our customers, increasing our productivity for the benefit of our country.

Trust

We build relationships based on the credibility, predictability and accountability of our actions and commitments.



RESEARCH TOPICS

Medical and Pharmaceutical Biotechnology

Development and Validation of Molecular Diagnostic Tests

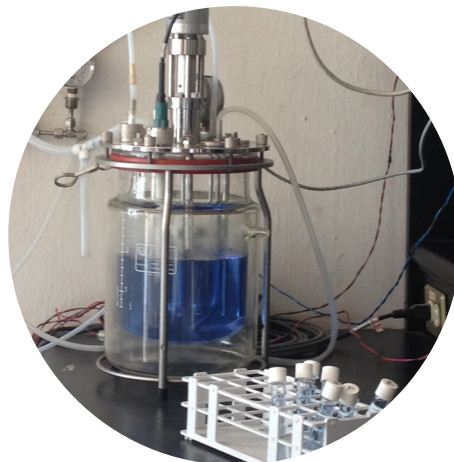
We identify and produce proteins for use as biomarkers to detect chronic degenerative and infectious diseases. We also develop and evaluate methods based on nucleic acid amplification and immune response.

Development and Evaluation of Products with Therapeutic Potential

We carry out tests for the production and preclinical and clinical evaluation of biotechnology drugs for their biocompatibility and biological activity. We assess and validate the biological properties of functional foods and nutraceuticals, and the therapeutic properties of compounds derived from natural products. Currently, we have initiated research in cell therapy and medical devices.

Development and Evaluation of Vaccines and Immunomodulatory Compounds

We develop and evaluate vaccines obtained through biotechnological methods, constructed via the modification of microorganisms or through their adaptation to laboratory conditions to attenuate them. Additionally, we develop and evaluate vaccines using genetic engineering which leads to the production of recombinant antigens. Also, we examine natural compounds that stimulate the effectiveness of our recombinant vaccines.



Environmental Technology

Wastewater Treatment

We develop processes for the wastewater treatment from agro-industries using biological processes with energy production and advanced oxidation processes for wastewater of low biodegradability. We perform design and modeling for optimizing treatment systems.

Integrated Management of Agro-industrial Wastes

We develop inoculants and biofertilizers from agro-industrial waste. We assess quality and fertility of soil due to the addition of agro-industrial wastes. We perform the integral management of solid waste using conventional technologies (traditional composting, vermicomposting, etc.).

Evaluation of Water Quality

We assess water quality in watershed using Geographic Information Systems (GIS) and studies of hydrological risk given the availability and quality of water in order to have information that contributes to the proper management of the water resources of our country.

RESEARCH TOPICS

Food Technology

Development and Quality Assurance of Foodstuffs and Drinks

We generate safe, innovative, in-demand products for the market that have additional health benefits and incorporate new ingredients, preserved under new transformation and preservation processes.

Process Engineering and Food Technology

We design and evaluate food technology processes and equipment from a pilot level and then scale them to the industrial level.

Food Safety

We take national and international safety regulations into consideration throughout all stages of product development and technology transfer processes to industry via the development of research projects.



Industrial Biotechnology

Design and Optimization of Microbiological and Fermentative Processes

We optimize the production processes of fermented and distilled beverages which allows for product quality standardization while simultaneously reducing the loss of raw material and helping to increase the competitiveness of the industrial sector.

Design, Optimization and Application of Biocatalysts

We investigate the collection and use of biological substances that help make better use of waste (papaya, coffee, mango peel, agave bagasse, etc.) in order to obtain high-value products such as enzymes or metabolites.

Plant Biotechnology

Plant Breeding

We use biotechnological tools (cryopreservation, cell selection, zygotic embryo- rescue, somatic embryogenesis, micropropagation, transformation and molecular markers, among others) to achieve hybrids resistant to their surroundings, resulting in higher productivity.

Micropropagation

We develop protocols for the mass production of commercially important plants: ornamental species, cut-flowers, agave, aloe, papaya and strawberries, among others.

Phytopathology

We study plant interactions with their natural enemies, we identify new strains of bacteria and fungal pathogens, and isolate and study beneficial microorganisms with potential use in the biological control of illnesses (bacteriophages and fungi).



Zapopan, Northeast and Southeast Campus

WHY CHOOSE CIATEJ?

Research, Development and Innovation

At CIATEJ we generate cutting-edge knowledge through the innovative application of biotechnology.

We protect knowledge through patents, trade secrets and/or copyrights.

We guarantee the development of Research, Development and Innovation (R+D+I) projects according to national and international quality standards ISO 9001-2008, COPANT/ISO 9001-2008/NMX-CC-9001-IMNC 2008 and regulations such as food safety.

We seek to create products, processes and services supported by market needs.

We offer competitive advantages for domestic and international markets.

We establish strategic partnerships and arrangements in order to take advantage of collaborative work.



More info at:

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Analytical Laboratory Services

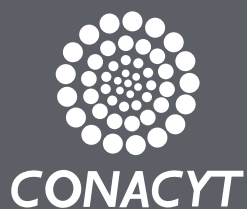
We use our own or standard techniques to support the industry and the public in general, through the analysis of water, foodstuffs and beverages, as well as the characterization of their contents.



Human Resources Training

High-level Human Resources Training is essential for the development of knowledge societies. That is why we train human capital with a superior level of scientific and technological knowledge, capable of generating, innovating, implementing and conveying up-to-date, academically and socially relevant knowledge, by developing quality graduate programs such as the Continuing Education Program (el Programa de Educación Continua) and the Early-Introduction Research Program (el Programa de Iniciación Temprana a la Investigación).





www.ciatej.mx



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