

The Food Research Center (FoRC) is an initiative by scientists from the University of São Paulo for the creation of the first research center focused on food and nutrition in Brazil. The FoRC is based on the concept that food and nutrition studies present a multidisciplinary character, and professionals with different backgrounds can study different aspects of the same subject. The main goal is to address key global challenges and develop internationally ranked fundamental, strategic and applied research, benefitting Brazilian agribusiness, consumers, policymakers and regulatory agencies, and causing a great socio-economic impact on the country.

The research projects can be clustered into four pillars. In Pillar 1 (*Biological Systems in Foods*), foods are characterized for their biodiversity and composition in macro and micronutrients and other compounds with potential health benefits. The molecular mechanisms that regulate the biosynthesis and catabolism of these compounds are elucidated using advanced *omics* tools. In Pillar 2 (*Food, Nutrition and Health*), the impacts of food components on the nutritional status of population groups and their potential to reduce the risk of disease are evaluated. Applications of nutrigenomics, metabolomics, new physical principles and clinical assays are explored to study the relationships between diet and health. In Pillar 3 (*Food Safety and Quality*), safety and quality of the food supply are evaluated through risk assessments for a range of microbial pathogens and chemical contaminants along the whole food production chain, in a “farm to fork” approach. Lastly, in Pillar 4 (*New Technologies and Innovation*), innovative processing technologies are developed, focusing on new ingredients with specific functionalities, design of novel nutritive and safe foods and new packaging systems that will fulfill consumer demands for safe and health promoting foods. The evaluation of environmental impacts of food processing is also a target of this Pillar.

The education and knowledge dissemination action plan addresses the challenge of communicating the achievements of the FoRC



through a number of activities, focusing on all segments of society. The educational role of FoRC is fulfilled by use of proper tools (courses, web, TV, press) to disseminate knowledge generated by the research conducted at the center to the scientific community, to food and nutrition professionals (industry, laboratories, government), to policymakers and to society in general. To achieve this, the FoRC partnered with several experts in communication and is developing an interactive website, where access to databases of different levels of complexity and detail will be available, including educational materials for basic and intermediate students. The development of highly qualified scientists is assured, as most research projects and other activities at the FoRC are carried out with the participation of undergraduate, Masters and Doctoral students, and post-doctoral fellows.

Technology transfer is an important goal of the FoRC, as conversion of research findings and academic knowledge generated by the food scientists into practical applications will cause substantial benefits to the country, impacting health, industry, trade, development, and, ultimately, standards of living. Cooperation with the food industry, government and other sectors of the society is accomplished with the assistance of the USP Innovation Agency, also responsible for the marketing and commercialization of the Intellectual Property generated by the FoRC. Workshops, seminars, open houses, and other activities organized in conjunction with interested parties, will create opportunities for new beneficial partnerships, adding value to the research conducted at the center.

## Host Institution

University of São Paulo (USP, campus São Paulo)

## Associated Institutions

State University of Campinas (UNICAMP)

São Paulo State University (UNESP)

Institute of Food Technology (ITAL)

Mauá Institute of Technology (IMT)

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