CENTER FOR RESEARCH ON TOXINS, IMMUNE-RESPONSE AND CELL SIGNALING – CeTICS

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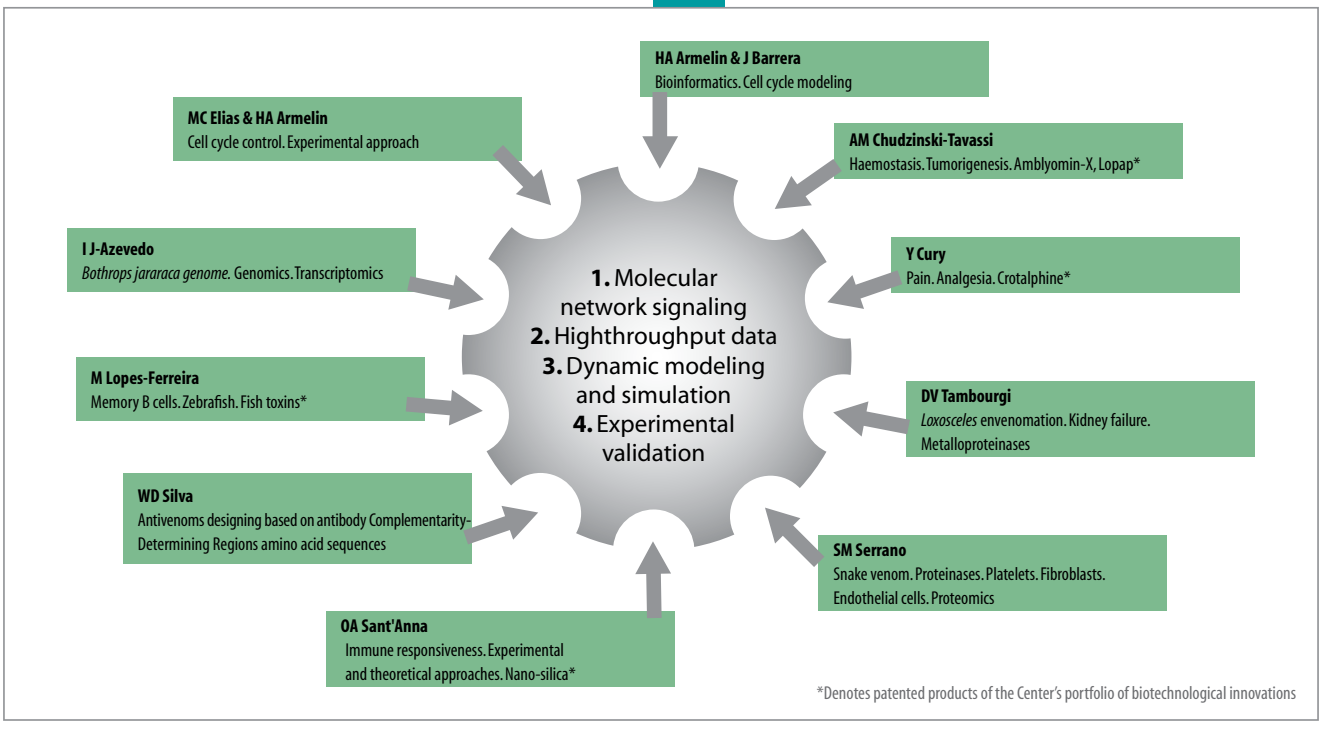

Diagram of the research plan displaying the focused, progressive steps towards which the subprojects converge. The subprojects (green rectangles) are identified by their respective principal investigators and keywords indicating research subjects.

Eleven research leaders of the Butantan Institute designed a plan to establish a new world-class center called the Center for Research on Toxins, Immune-Response and Cell Signaling (CeTICS). This initiative took advantage of the international reputation of the Butantan Institute and the infrastructure recently built by the former Center for Applied Toxinology (CAT), supported by FAPESP in the first edition of the RIDC Program.

Over the last 10 years, investigators of the CAT successfully isolated, chemically characterized and patented several novel protein and peptide toxins from natural venoms and animal secretions, which became promising starting points for the development of pharmaceutical innovations, in partnership with local industries. This emphasis on proteins and peptides led to the development of state of the art laboratories for proteomics, genomics, transcriptomics, molecular biology of recombinant DNA and peptide synthesis. More recently, studies of biochemical, molecular and cellular mechanisms of potential therapeutic toxins were initiated, aiming to establish proof-of-concept studies based on the analyses of molecular signaling networks. Thus, the CAT progressively moved towards Systems Biology-driven research, making the Butantan Institute ready to house a competitive interdisciplinary center of excellence in toxins, immune response and cell signaling.

The new CeTICS starts with an ambitious research plan focused on integration of subprojects, some aimed at scientific research and others motivated for technological innovation. This general plan includes guidelines to efficiently transfer research spinoffs to industrial settings by a process mediated by the Technology Transfer Office of the Butantan Institute. Furthermore, it also includes specific objectives for education and knowledge dissemination, with innovative ideas to further explore the educational vocation of the Butantan Institute museums. To achieve all of these goals, the principal investigators assembled a large and diversified team of 70 researchers and students, complemented by a collaboration of 35 external senior scientists from both Brazilian and well known foreign Institutions.

Host Institution

Butantan Institute (IBu)

Associated Institutions

University of São Paulo (USP)
Albert Einstein Israelite Education and Research Institute (IIEPAE)
São Paulo State University (UNESP)
Federal University of Minas Gerais (UFMG)
University of Glasgow, United Kingdom
Stanford University, United States
University of Toyama, Japan
Université de Montpellier, France
University of Virginia, United States
University of Berlin, Germany
National Academy of Medicine, United States
Cardiff University, United Kingdom
University of Lousane, Switzerland

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