BRAZILIAN CTI INSTITUTIONS RESEARCH ON COVID-19

INTRODUCTION

Several Brazilian CTI institutions have launched contests and calls for research proposals on technological solutions aimed at fighting the COVID-19 virus and the difficulties arising from the social distancing required to face the pandemic.

This national effort has also engaged startups that already present solutions to mitigate some of the effects of the crisis and are contributing to traditional Brazilian research institutes that rely on accumulated experience in other to address this epidemiological crisis. Those initiatives - some of which are described below - started in the first spreading stage of the virus in Brazil and have the objective of providing different concrete solutions to reduce the impact of Covid-19 in Brazilian society and economy.

CONTESTS AND CALLS FOR RESEARCH PROPOSALS

MCTIC VIRUS NETWORK

The Ministry of Science, Technology, Innovations and Communications of Brazil (MCTIC) established an advisory committee and strategic plan to provide integrated and quick responses to emerging viruses. It coordinates the efforts of research laboratories with a view to identifying complementarities of infrastructure and activities in the ongoing research on covid-19, influenza and others. The objectives of the network are the integration of scientific research and development efforts in the area of emerging viruses; definition of research priorities; coordination of ongoing R&D initiatives related to emerging viruses; and development of technologies to assist the country in facing those challenges. Researchers and representatives of MCTIC, the Ministry of Health and development agencies participate in the initiative. The initiative already counts on the collaboration of institutions like the research facilities of Fiocruz, Butantan, CNPEM/LNBio and universities like USP, Unicamp, UFMG, UFC and UFRJ.

Within this network, the National Center for Research in Energy and Materials (CNPEM) is already employing
tools like computational biology and AI to evaluate the effectiveness of about 2 thousand existing drugs against Covid-19. Computational data tests use atomic structure data and the behavior of covid-19 proteins to examine the interaction of molecules of available medications with these target proteins, and to pre-select those that show promise in interfering with the infection. Selected molecules will then be tested in vitro to verify its effectiveness in eliminating the virus, which will allow the new use of already available medications.

The MCTIC also sent a provisional law proposal to the Presidency for the emergency release of R$ 100 million (100 million Brazilian reais) from the National Scientific and Technological Development Fund (FNDCT), which awaits the approval of the Ministry of Economy to be applied in Research Networks, National Institutes of Science and Technology (INCT) and public calls via the Brazilian National Council for Scientific and Technological Development (CNPq) and the Funding for Studies and Projects (Finep).

FINEP-FAPIESP: DEVELOPMENT OF TECHNOLOGIES FOR PRODUCTS, SERVICES AND PROCESSES TO FIGHT INFECTIOUS DISEASE BY THE CORONA VIRUS 2019 (COVID-19)

Fapesp and Finep, under the PIPE / PAPPE Grant Program, launched a call for research projects on the development of technologies for products, services and processes to fight Covid-19. The research call will allow that participants from previous phases of the Grant program (Phase 1 or Phase 2) to commercialize emergency products or services.

FAPIESP: SUPPLEMENTS FOR QUICK IMPLEMENTATION AGAINST COVID-19

The São Paulo Research Foundation (FAPESP) launched a call for research proposals on COVID-19 within the time limit of 24 months, with a view to understanding the virus' epidemiological characteristics, developing tests and therapies, conducting research on clinical procedures, identifying and evaluating innate immune responses and issues related to the social behavior of the affected population. The total amount of the research call is R$ 10 million and the deadline for submission of proposals is June 22nd, 2020.
EMBRAPII-SEBRAE: TECHNOLOGICAL SOLUTIONS BY STARTUPS AND SMALL AND MEDIUM-SIZED ENTERPRISES

Brazilian Micro and Small Business Support Agency (SEBRAE) will assign R$ 2 million to the development of technological solutions by startups and other small and medium-sized enterprises with a view to help the Brazil face Covid-19. The funds will add up to R$ 4 million from the Brazilian Industrial Research and Innovation Company (EMBRAPII) and contributions by participating companies and accredited research and innovation centers. Joint resources are expected to reach the total of R$ 10 million. The resources may be used for software development, system devices, hardware, medical parts and equipment, and others.

SENAl: MISSION AGAINST COVID-19

The National Service for Industrial Training (SENAI), through the "Innovation Call for Industry", will select projects that help prevent, diagnose and treat Covid-19. It foresees the destination of R$ 10 million for proposals on solutions against problems caused by the virus, with immediate application and results within 40 days, in the areas of consulting, metrology, testing, analysis, research, development and innovation. Examples of these solutions are the manufacture of mechanical respirators and the development of rapid tests for the detection the disease.

CONFAP: EUROPEAN UNION EMERGENCY RESEARCH CALL FOR CORONAVIRUS DIAGNOSIS

The National Council of State Foundations of Research Support (CONFAP) released a proposal for Brazilian institutions to join the so-called "Development of therapy and diagnosis for fighting coronavirus infections" launched by 'Innovative Medicines Initiative', in cooperation with European Union and the European Federation of Pharmaceutical Industries and Associations (EFPIA). The research call has an emergency nature and the deadline for submission of proposals is this March 31st. Its objective is to identify new therapeutic agents, early diagnostic systems, and reliable data related to Covid-19. Brazilian partners can participate in a co-financing scheme. The European side plans to disburse EUR 45 million.
MPPE-SES / PE-PORTO DIGITAL: CHALLENGE COVID-19

The Covid Challenge 19 is an initiative by the Public Persecutor’s Office of the State of Pernambuco (MPPE), the State Health Secretariat of Pernambuco (SES-PE) and Porto Digital. The MPPE and SES-PE offer R$ 1.3 million for innovative and high-impact solutions that can be adopted in a short term, with a view to fighting the virus. The challenge already includes the submission of 543 ideas on 5 areas: a) monitoring the risk groups; b) information flow management; c) monitoring social isolation; d) support for health agents; and e) testing and diagnosis.

ARAUCÁRIA-SETI / PR-SESA / PR FOUNDATION: SUPPORT PROGRAM FOR THE PREVENTION, CARE AND FIGHT AGAINST THE PANDEMIC OF CORONAVIRUS

The program was launched by the Araucária Foundation for the Support of Scientific and Technological Development of the State of Parana, the General Superintendence of Science, Technology and Higher Education (SETI) of Parana and the State of Parana’s Department of Health (SESA). This program aims to allocate R$ 8 million for the development of projects aimed at prevention, care and fight against Covid-19 by higher education institutions in that state. The proposal submission deadline is March 23rd and the result is expected to be released on the following day.

USP

The University of São Paulo (USP) is conducting researches for vaccine development with a quick response against the virus. The work takes advantage of results from previous studies on other types of coronaviruses, which, hopefully, can help in the case of Covid-19. Brazilian research is comparatively safer, as it is based on the creation of a particle similar to coronavirus, the VLP (virus-like particle), equivalent to a hollow virus, without the genetic material and therefore without the transmissibility of the disease.

STARTUPXCovid

The Governance & New Economy Community (Gonew.co),
with the support from the Brazilian Association of Startups (Abstartups), launched the campaign StartupsxCovid19, which seeks to map companies with innovative solutions to face the coronavirus crisis. Among other initiatives, mapping will be used to provide information to entities such as the Ministry of Health.

TECHNOLOGICAL SOLUTIONS AND BRAZILIAN STARTUPS INITIATIVES

HI TECHNOLOGIES

The startup Hi Technologies, based in Curitiba, State of Parana, announced the development of a rapid test for Covid-19 detection that provides results in 10 minutes. The large-scale production of the test kit is underway, with delivery of kits in April. The startup is known for the Hilab device, which integrates internet of things (IoT) and artificial intelligence to perform remote exams by collecting drops of blood in the Hilab (available in pharmacies), that transmits information to the laboratory responsible for analyzing the result, issuing and signing the respective report. Hilab is already capable of testing for HIV, dengue, zika and hepatitis, in addition to measuring cholesterol levels, blood glucose and other issues.

Company's contact details:
Hi Technologies
6.400B, Rua Eduardo Sprada, Cidade Industrial, Curitiba, Parana.
https://hitechnologies.com.br/site/
contact @ hitechnologies
+55 41 3022-3461
CEO - Marcus Figueredo

ROCKET CHAT

The startup Rocket Chat (a participant of the Startout Brasil Program) is a platform for the organization of hackathons based in Brazil and in the United States. The company is organizing hackathons to seek innovation and collaborations ideas to fight COVID-19. The marathon will include participants from 20 Brazilian cities. Considering the emergency of the situation, registration was closed on March 23rd. The link to the hackathon is:

Contact details:
Rocket Chat
Rua Dr Jorge Fayet, 757, Porto Alegre, Rio Grande do Sul, Brazil
https://rocket.chat/

TRUCKPAD

Another participant in the Startout Brasil Program, the startup Truckpad operates in the area of logistics and is one of the largest digital cargo and truck drivers connection platforms in Latin America. Truckpad will offer free and voluntary transportation to goods donated to hospitals and medical assistance initiatives in Brazil. Those interested in making donations must access the website www.transportevoluntario.com.br.

Contact details:
Truckpad
https://www.truckpad.com.br/
CEO Carlos Mira