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Japan Science and Technology Agency (JST)
5-3, Yonbancho, Chiyoda-ku, Tokyo 102-8666

JST to fund three research projects in Biotechnology/Bioenergy fields jointly with Brazil under the Strategic International Collaborative Research Program (SICORP) framework

The Japan Science and Technology Agency (JST) (HASHIMOTO Kazuhito, President) has approved funding for three new joint research projects in the research field of “Biotechnology/Bioenergy” under the Strategic International Collaborative Research Program (SICORP) [*1] (Attachment 1).

JST and FAPESP[*2] called for proposals jointly between July and September in 2022 and received a total of three proposals. Three were selected after evaluation by a panel of experts (Attachment 3). The projects have started in April 2023, with a predicted research period of three years.

*1 SICORP: https://www.jst.go.jp/inter/english/index.html
*2 Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP)
https://www.fapesp.br/en/

Attachments
1. Abstracts of selected projects
2. Abstract of the joint call for proposals
3. Experts for the evaluation (Japan side)

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Attachment 1

Abstracts of selected projects

	Title	Principal Investigator (Japan side) / Principal Investigator (Brazil side)	Position and Institution	Research Abstract
1	Linking Soil Health to Food Quality: Addressing the value of Amazonian Agroforestry Systems Under an Innovative Bioeconomic Approach	Andre Freire Cruz	Associate Professor, Graduate School of Life and Environmental Sciences, Kyoto Prefectural University	This research deals with sustainable agriculture in the Amazon rainforest through evaluating plant-soil feedback processes in the forests and agricultural sector in the Amazonas state in Brazil, as well through attempting to develop new cultivars of cacao, cupuassu and apple for cultivation in this geographical context. More specifically, the project aims to analyze the microbial diversity of soils in the Amazon through examining their chemical, physical and biological characteristics, as well as their relationship with plant minerals and productivity. Soil characteristics will be monitored in order to standardize breeding programs where new cultivars are capable of producing similar fruit in varying soil conditions.
		Siu Mui Tsai	Professor, Center for Nuclear Energy in Agriculture, University of São Paulo	
2	Lignin-derived catalyst ink for printed electrodes	Izabela Rzeznicka	Professor, College of Engineering, Shibaura Institute of Technology	This research targets advanced conversion of biomass into value-added materials by employing various chemical methods. Through collaboration between the Japan and Brazil teams, high-purity lignin and sugars will be extracted from sugarcane residues in order to produce catalytic inks and chemicals used in chemical energy conversion devices. This research, if positive results are obtained, is expected to have a positive impact on the profitability of the agricultural sector and contribute to global sustainability through the effective use of hitherto unutilized carbon resources.
		Anuj Kumar Chandel	Assistant Professor, Department of Biotechnology, University of São Paulo	

3	Genetics and functional genomics studies toward improvement in fruit ripening and harvesting in tomato	Ning Wang	Assistant Professor, Faculty of Life and Environmental Sciences, University of Tsukuba	Since harvesting accounts for the greater part of the food production process, labor-saving measures can significantly reduce production costs and improve overall profitability. One of these areas is improving crops to accommodate mechanical harvesting, such as by improving fruit detachment systems. On this topic. this research aims to elucidate the molecular control mechanisms of fruit harvesting and apply them to molecular breeding by using tomato genetic resources of the University of Tsukuba and University of São Paulo. Specifically, the Japan team will identify genes and analyze their functions to clarify the involvement of low-molecular-weight compounds (phytohormones) which regulate the physiological processes of plants. At the same time, the Brazil team will use original plant materials to verify the proposed trait expression control mechanism. It is expected that this joint research will be able to further accelerate international collaborative research in this area, and that the findings will have a positive impact on crop improvement and production which will contribute to efficient and low-cost production systems.
		Lázaro Eustáquio Pereira Peres	Professor, Department of Biological Sciences, University of São Paulo	

Attachment 2

Abstract of the joint call for proposals

Funding agencies:

Japan side: JST

Brazil side: Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP)
https://www.fapesp.br/en/

Field

Projects must be joint research between the two countries in the field of Biotechnology/ Bioenergy

Eligibility

Japan side: any independent researcher personally affiliated with (and actively conducting research at) a domestic Japanese research institution, regardless of nationality, is eligible to apply.

Research period

3 years

Amount of funding

Japan side: up to 18.2 million yen from JST to the researchers (Japan side) per project over 3 years, including overhead costs (30 percent of direct costs).

Evaluation method

Based on evaluation by experts from the two countries and discussion between JST and FAPESP.

Evaluation criteria

I. Fulfilment of the formal prerequisites for funding

II. Compliance with “1: Aim and purpose of program” and “2: Object of funding” in the call document

III. Scientific and technological criteria

a. Quality and originality of the project

b. Scientific and technological expertise of the applicant and the Brazilian and Japanese partners involved

c. Scientific benefits and prospects for the exploitation of the expected results

IV. Criteria concerning international cooperation

a. Experience of the applicant in international cooperation

b. Establishment of new or consolidation of already existing bilateral/international partnerships

c. Quality of the cooperation and added value for partner institutions

V. Plausibility and feasibility of the project (financing; milestones; time frame)

Attachment 3

Experts for the evaluation (Japan side)

Name	Position and Institution	Role
NAGAMINE Tsukasa	Former Vice President, The National Agriculture and Food Research Organization (NARO)	Program Officer
ASANUMA Shuichi	Professor Emeritus, Nagoya University	Advisor
KANDA Hideki	Assistant Professor, Nagoya University	Advisor
KOKUBUN Makie	Professor Emeritus, Tohoku University	Advisor
NUNOME Tsukasa	Unit Leader, The National Agriculture and Food Research Organization (NARO)	Advisor
NODA Reiji	Associate Professor, Gunma University	Advisor