

Clear signs of recovery

FAPESP Annual Report shows that São Paulo’s scientific community regained momentum in 2023

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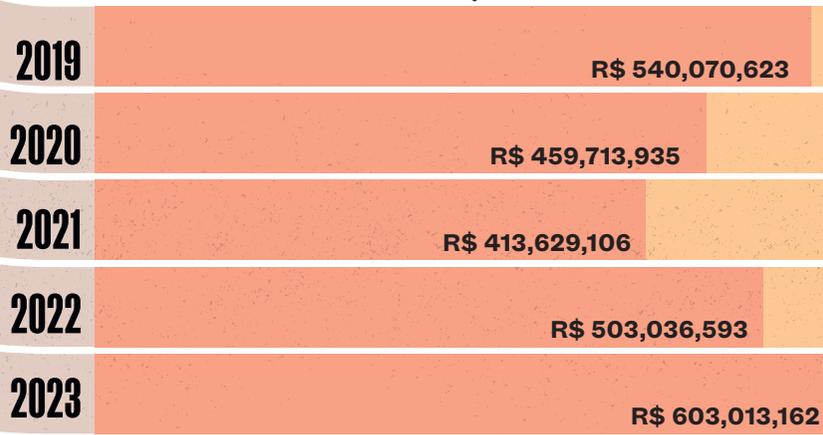
In 2023, FAPESP invested R\$1,366,291,568 in 23,029 research projects, 15.5% more than was invested in 2022. The number of projects was 11.2% greater than the previous year, although it was still less than the 24,806 projects funded in 2019, prior to the COVID-19 pandemic. One indicator that increased significantly was the number of new projects started, which, at 10,266, was 18% higher than in 2022, reversing the downward trend in the number of research proposals submitted that was caused by the global health crisis.

“After three years of decline in the number of proposals submitted to FAPESP, there were clear signs of a recovery in demand for both fellowships and research grants in 2023,” wrote the president of FAPESP’s Board of Trustees, Marco Antonio Zago, in a statement that accompanied the release of the *FAPESP Annual Report 2023* in July. “This is a result of the fact that most laboratories and postgraduate programs have returned to normal functioning, but it is also due to steps taken by FAPESP to encourage the resumption of research in São Paulo.” An overview of the measures adopted over the last year is included in the report, which is available on the foundation’s website. Annual funding data are also available for every year since 1962, when FAPESP began operating.

The impacts of the pandemic can be seen in some of the indicators, such as scientific output, which decreased for the second consecutive year in 2023. Data from Clarivate Analytics show that the number of articles published by authors from São Paulo, which reached 30,700 in 2021, fell to 26,200 in 2022 and then to 23,700 in 2023. In Brazil as a whole, 73,400 articles were published in 2021, 62,700 in 2022, and 56,300 in 2023.

The increase in demand began to become apparent in March, in an overview of “first projects” submitted to FAPESP in 2023 by researchers who had not previously applied for funding from the foundation. There were 4,483 proposals in total—26% more than the year before the

FELLOWSHIPS



pandemic. “The ability to attract new talent and ensure that their education and research are funded by FAPESP is essential to preserving the quality of São Paulo’s science, technology, and innovation system,” explained FAPESP’s scientific director, Marcio de Castro Silva Filho.

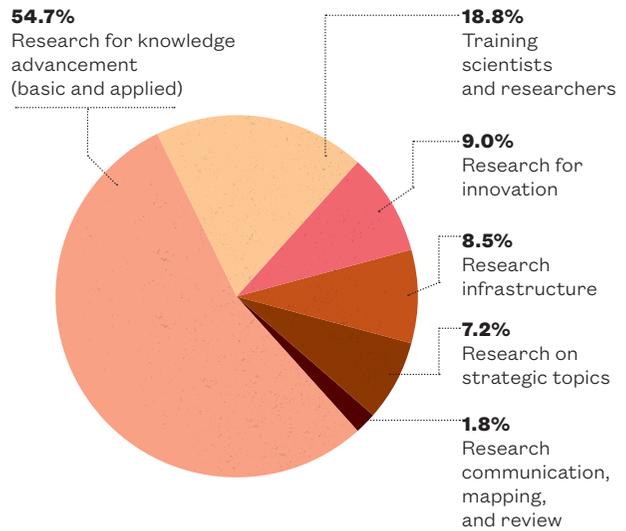
The report revealed a substantial increase in fellowships for research abroad, with 1,140 ongoing in 2023, 37% more than in 2022. The amounts invested in these fellowships, which include periods spent overseas by researchers affiliated with research institutions in São Paulo or FAPESP fellowship beneficiaries at different stages of their education from undergraduate to postdoctorate, grew by 51%. The number of fellowship beneficiaries at Brazilian institutions increased by 5.9%, and the amount funded increased by 7%. In total, R\$256.8 million was spent on 7,856 fellowships in Brazil and abroad during the year. In 2023, FAPESP’s Board of Trustees approved a 33% increase in the budget for fellowships abroad, which had been unchanged since 2012, and a 6.7% increase in fellowships in Brazil. The foundation continued to reformulate its fellowship values in 2024, with adjustments of up to 45% in some categories.

While investments in training scientists and researchers, which translated into fellowships, accounted for 18.8% of the funding allocated by FAPESP in 2023, the largest share (54.7%) was spent on research for knowledge advancement, with R\$747 million invested compared with R\$633 million in 2022. This category includes basic and applied research and covers regular grants, thematic grants, the Young Investigators at Emerging Centers program, and Research, Innovation, and Dissemination Centers (RIDCs).

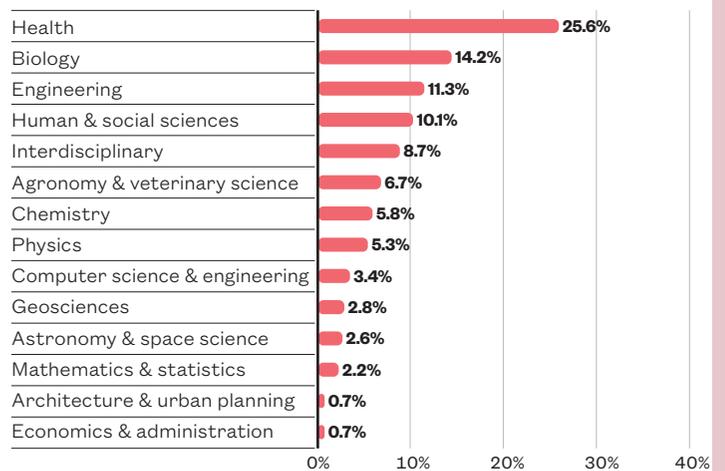
In 2023, FAPESP announced the selection of five new RIDCs in the fields of health science, biology, agronomy, and veterinary science. The Federal University of São Paulo (UNIFESP) became the host institution for an RIDC that focuses on antimicrobial resistance, whereas the Luiz de Queiroz College of Agriculture of the Uni-

Investment in 2023

BY FUNDING CATEGORY



BY FIELD



GRANTS

TOTAL

R\$ 717,217,564

R\$ 1,257,288,187

R\$ 518,579,375 R\$ 978,293,310

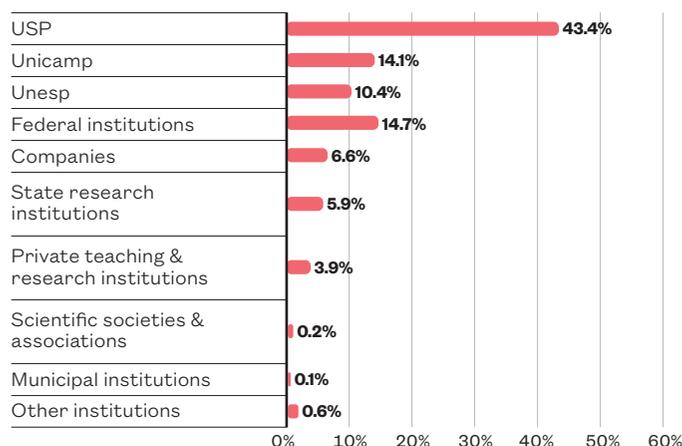
R\$ 599,689,952 R\$ 1,013,319,058

R\$ 679,603,212 R\$ 1,182,639,805

R\$ 763,278,406

R\$ 1,366,291,568

Investment in 2023 by institution



Commitments made

Funds committed to the following years for payment of approved fellowships and research grants – in R\$, as of 12/31/2023

TOTAL

R\$ 2,587,653,866

GRANTS

R\$ 1,940,630,415

FELLOWSHIPS

R\$ 647,023,451

versity of São Paulo (ESALQ-USP) was chosen to create a center for research on carbon in tropical agriculture. The Hematology and Hemotherapy Center at the University of Campinas (Hemocentro-UNICAMP) now has an RIDC that aims to innovate in theranostic medicine, which involves the use of nanotechnology to diagnose and treat cancer, while the Biosciences Institute at São Paulo State University (IB-UNESP), Rio Claro campus, founded a center to investigate the dynamics of biodiversity in the context of climate change. The Research Center for Bacteria and Bacteriophage Biology (B3), based at USP's Chemistry Institute, is studying the reproductive mechanisms and behavior of bacteria and their main predators. These research centers, which are dedicated to topics at the forefront of knowledge, will receive long-term investment for up to 11 years.

The research for innovation category received R\$122,852,931, equivalent to 9% of all FAPESP funding in 2023. A call for proposals was issued for another Engineering Research Center (CPE) to study citrus farming in partnership with the company Citrusuco. There were 18 CPEs operating in 2023 that collaborated with companies such as Shell, GSK, EMBRAPA, and Embraer in addition to groups of institutions such as USP, UNICAMP, UNESP, and Insper.

Work also began on three of the 10 Applied Research Centers (CPAs) for Artificial Intelligence that were selected through a 2021 call issued in conjunction with the Ministry of Science, Technology, and Innovation, the Ministry of Communications, and the Internet Steering Committee of Brazil (CGI.br). A survey conducted by FAPESP's Planning, Studies, and Indicators team and Research for Innovation department revealed the impact of the CPE/CPA partnership model: for every R\$1 of public funds spent, R\$4.8 was contributed by partner companies and institutions.

The Innovative Research in Small Businesses (PIPE) program established new initiatives, such as PIPE Start, which supports entrepreneurs in the initial process of validating innovative technological solutions. The foundation issued calls for the accreditation of accelerators and seed capital equity investment funds. "We are interested in hearing proposals from investment funds whose aims converge with ours, which is to fund technology companies based in the state of São Paulo," explained Carlos Américo Pacheco, chairperson of the FAPESP Executive Board, at the launch of a call that invited investment funds to submit proposals to the foundation for possible subscription of shares.

Funding for research infrastructure, a development strategy aimed at modernizing and expanding laboratories, accounted for 8.5% of total investment, with an emphasis on the Special Program to Support Research Infrastructure in the State of São Paulo. In 2023, FAPESP approved 56 proposals for the acquisition of

large equipment via three calls issued in 2022, with a total value of R\$450 million. In September 2023, another call was issued, worth R\$200 million, for the acquisition of small equipment.

Research on strategic topics received 7.2% of the total funding to foster special programs on biodiversity, bio-energy, climate change, eScience, public policies, public education, and others. One of the highlights was the major investment in the Science Centers for Development (CCD), which received almost four times as much funding in 2023 as in 2022. Twenty-eight CCDs were created in the year that focused on fields such as health, agriculture, advanced manufacturing, smart cities, public safety, and the environment. The centers bring together researchers who seek solutions to challenges defined by São Paulo state departments. A new call for proposals for the program was issued in 2023.

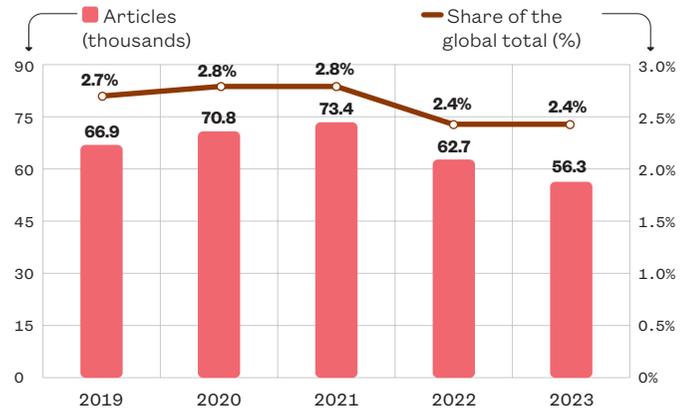
Finally, the research communication, mapping, and review category, which includes science communication initiatives such as *Pesquisa FAPESP* magazine and *Agência FAPESP* as well as the production of indicators and statistical data on science, technology, and innovation in São Paulo, accounted for 1.8% of total funding.

The foundation's annual income comes from 1% of the State of São Paulo's tax revenue, which is transferred by the treasury as outlined in the São Paulo State Constitution, in addition to FAPESP's own revenue streams and joint research-funding agreements with institutions and companies. In 2023, the combination of these revenues totaled R\$2,303,470,454. The state treasury transferred R\$1,909,128,518.67, the foundation's own revenue streams provided R\$389,476,455.21, and funds from agreements amounted to R\$4,865,480.19. By the end of 2023, FAPESP had committed R\$2.6 billion in funding for the following years, R\$647,023,451.30 of which was through fellowships and R\$1,940,630,415.37 in grants, to allow ongoing projects to continue and ensure research-funding stability in the state. ●

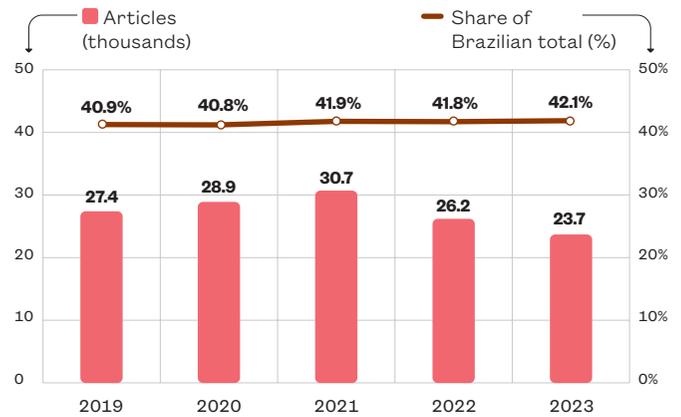
The impact of the pandemic on the publishing of scientific articles

Number of articles and relative share (%)

BRAZIL



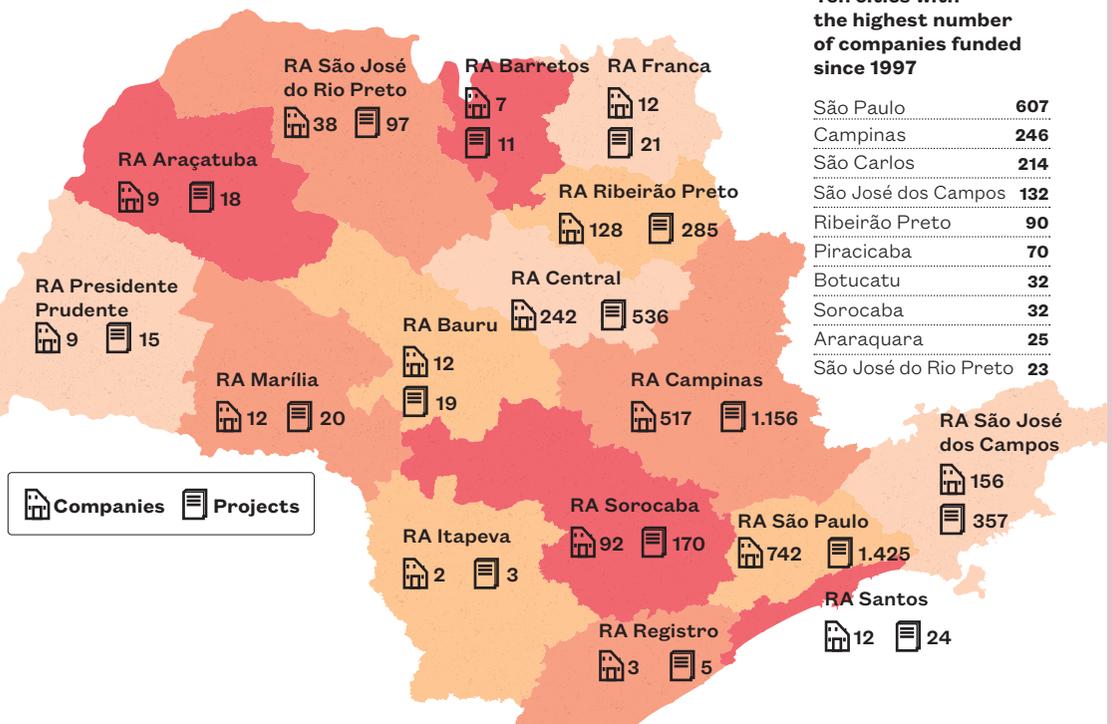
SÃO PAULO



SOURCE: INCITES (CLARIVATE). DATA ACCESSED ON 07/17/2024

Geography of innovation in São Paulo

Locations of companies funded by the Innovative Research in Small Businesses (PIPE) program since 1997 by administrative region (RA)



Ten cities with the highest number of companies funded since 1997

São Paulo	607
Campinas	246
São Carlos	214
São José dos Campos	132
Ribeirão Preto	90
Piracicaba	70
Botucatu	32
Sorocaba	32
Araraquara	25
São José do Rio Preto	23