FAPESP

SÃO PAULO RESEARCH
FOUNDATION

FAPESP 2013
ANNUAL ACTIVITY REPORT

SÃO PAULO RESEARCH
FOUNDATION

FAPESP 2013 ANNUAL ACTIVITY REPORT

EXECUTIVE VERSION

FISCAL YEAR 2013

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FISCAL YEAR 2014

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Rodrigo Garcia (until April 3, 2014)
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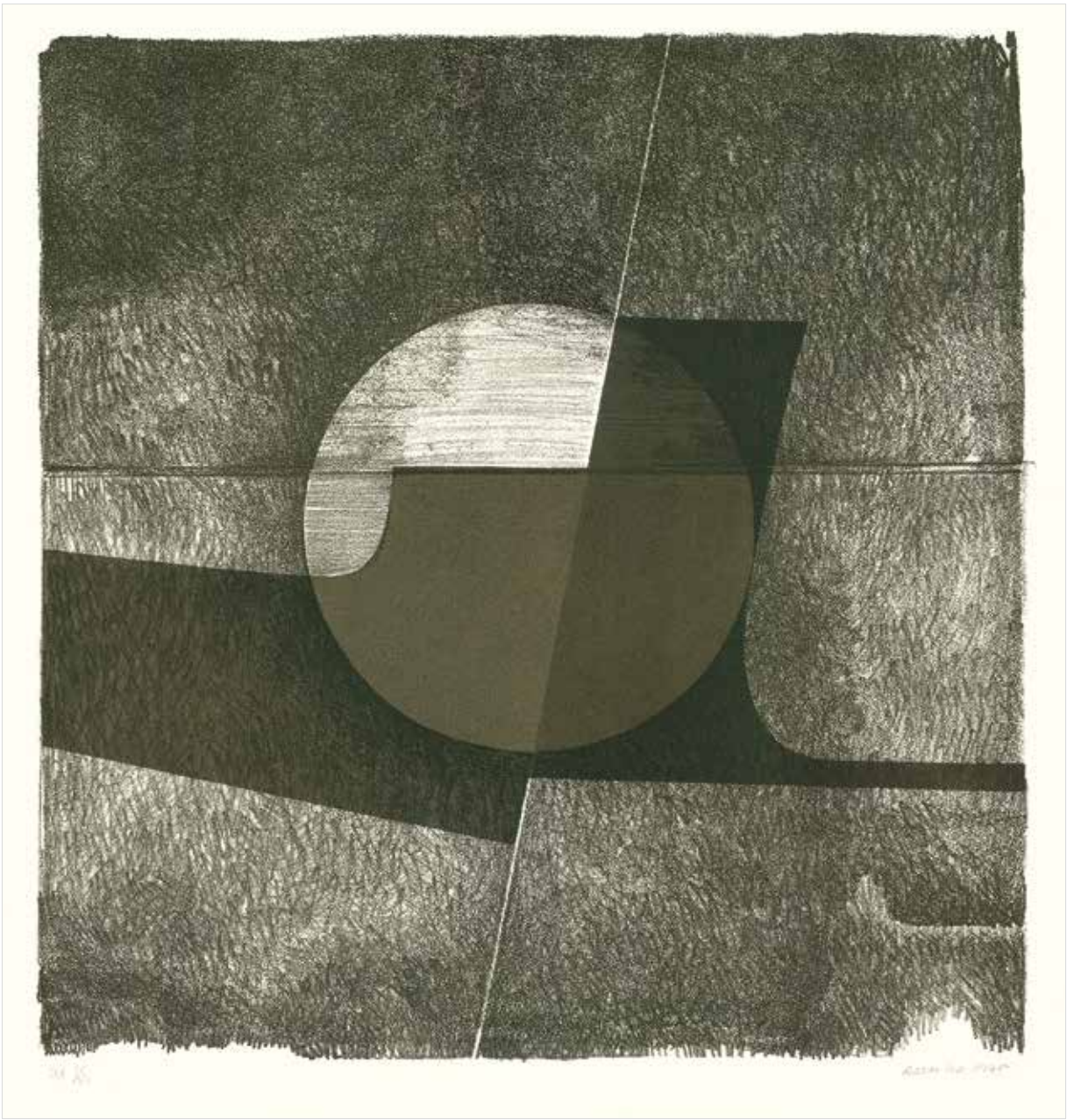

Untitled, 1975
Lithograph
55 x 65 cm

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Abyss, 1986
Lithograph
81 x 60 cm

INTRODUCTION

Since 1962, FAPESP has increased São Paulo State's involvement in the advancement of knowledge. FAPESP is distinct from similar entities in other states and countries based on its research and development expenditure contributions, which represent 1.6% of the state's GDP. This contribution exceeds that of any other Brazilian state and of the country as a whole and is comparable to that of countries such as Spain, Italy, Russia and China. São Paulo State generates half of all knowledge created in Brazil and more knowledge than any other country in Latin America. This is shown by the number of articles published in internationally ranked scientific journals that are written by researchers based in this state. This knowledge has had a major impact on the academic, social and economic arenas, which are essential to progress in São Paulo state.

To illustrate the magnitude of this impact, we cite the following statistics:
✓ nearly 1,000 small businesses have received support from FAPESP through its Program for Innovative Research in Small Businesses (PIPE), and every R$ 1 spent by FAPESP allows the supported businesses to mobilize an additional R$ 10.5 from internal resources or other sources;
✓ a 2002 study carried out by researchers based at the Luiz de Queiroz Agriculture School (ESALQ) demonstrated that for the agricultural industry in São Paulo, "every real spent on research resulted in a R$ 10 to R$ 12 increase in production value";
✓ approximately 1/3 of FAPESP funds are dedicated to research in health-related fields, thus having direct benefits for public health care;
✓ in addition to the global impact of its numerous scientific findings, the Biota-FAPESP project has helped the São Paulo State government formulate environmental conservation legislation in the form of regulatory acts, resolutions and decrees that are explicitly based on discoveries made by scientists involved (the final version of Article 6 of Decree No. 60.302 dated March 17, 2014 incorporates the findings of the Biota-FAPESP program as a planning tool for establishing new conservation units).

To Bernardo Cid, 1982
Lithograph
62 x 81 cm

Untitled, 1982
Lithograph
61 x 80 cm

Other examples of FAPESP-funded research topics are as follows: AIDS

vaccine development; treatment development for cancer, obesity, diabetes and numerous other diseases; sugarcane productivity and agricultural productivity in São Paulo State; biodiversity and environmental conservation; aerospace and automobile industry materials; the origins of the universe; the history and development of Brazilian democracy.

The effectiveness of research carried out in São Paulo is the combined result of several factors that include the quality of the state's universities and institutes, the extraordinary productivity of its researchers (who produce 50% of the knowledge generated in Brazil yet constitute only 20% of all researchers in the country), high rates of participation by private, São Paulo-based companies that function within the state's R&D outlays, São Paulo's outstanding infrastructure, and the existence of a well-designed state research-sponsoring agency created under the leadership of Governor Carvalho Pinto, maintained by its directors and Board with excellence and with autonomy over the past half century.

Within this context, FAPESP income in 2013 totaled 509.96 million in $ purchasing power parity (PPP). In other words, income generated in 2013 was 7% higher than 2012 income levels in nominal terms. This value combined with scholarship and grant disbursements and research funding reached $ PPP 481.51 million.

In 2013, FAPESP received a total 13,272 requests for scholarships, representing a 10.58% increase from 2012, in addition to 6,798 requests for regular research grants and grants for special programs and technological innovation research programs, constituting a total of 20,070 requests. These requests were processed over an average of six weeks, which is considered excellent by international standards for research-sponsoring agencies.

In accordance with the Foundation's funding objectives, 39% of expenditure was earmarked for advancing knowledge ($ PPP 186.99 million), 9% was dedicated to supporting research infrastructure ($ PPP 42.39 million) and 52% was allocated to supporting research with clear potential for application ($ PPP 252.12 million).

These funds for scientific research benefit in São Paulo's universities and higher education institutions that are maintained by the state or federal government, as well as religiously affiliated and private institutions.

Concerning the institutional affiliations of researchers, it is important to emphasize that in the state university system, projects coordinated by researchers at the University of São Paulo (USP) received $ PPP 225.64 million (46.86%); those at São Paulo State University (Unesp) received $ 70.63 million (14.67%); and those based at the University of Campinas (Unicamp) received $ PPP 66.48 million (13.81%). Federal higher education and research institutions in the state of São Paulo received $ PPP 61.60 million (12.79% of the total FAPESP outlay), $ PPP 25.63 million of which was allocated to the Federal University of São Paulo (Unifesp), $ PPP 15.55 million of which was dedicated to the Federal University de São Carlos (UFSCar), and $ PPP 11.83 million of which was allocated to institutes associated with the Ministry of Science, Technology and Innovation.

Areas receiving the largest volume of resources are as follows: health: $ PPP 148.15 million (30.77%); biology: $ PPP 77.36 million (16.07%); human and social sciences: $ PPP 49.12 million (10.20%); engineering: $ PPP 46.63 million (9.69%); and agronomy and veterinary sciences: $ PPP 44.94 million (9.34%). It is important to note that the FAPESP Support for Research Publications Program, which caters to the human and social sciences disciplines, registered 27% growth in 2012, resulting in 362 publications.

State-governed research institutes, a number of which have contributed to São Paulo State science for over the past century, have also received FAPESP funding to continue and enhance their work. In 2013, funds disbursed to these institutes totaled $ PPP 25.50 million, and primary recipients included the Butantan Institute, the Heart Institute of the Hospital das Clínicas, the Agronomic Institute (IAC) and the Nuclear Energy Research Institute.

INNOVATION

The emphasis that FAPESP places on promoting innovation, which is a theme that is growing increasingly important to the state of São Paulo and to Brazil as a whole in the context of the global economy, is evident when reviewing the performance of several of its programs in 2013.

One of the basic principles of FAPESP throughout its 52-year history has been to attribute equal value to basic research and research with clear potential

for application, as scientific works initiated with no immediate application objective have several years thereafter given rise to influential industrial applications. However, given the current state of international economic competition, a strategic concern for Brazil and for the state of São Paulo involves placing special emphasis on innovation and applied research.

In 2013, FAPESP doubled the number of projects contracted through its PIPE program mechanism to a total of 167. This program grants loans to research projects executed by small businesses, many of which are startups established at universities and research institutes located in São Paulo State. The program also achieved a record number of 144 research grants launched throughout the year. These achievements contributed to those of PAPPE/PIPE, a federal program that supports small business research in São Paulo and which targets phase 3 of the PIPE (applied research). This means that every week for one year, small businesses in São Paulo received FAPESP funding to develop research projects for generating new products or processes that will benefit the economy and society. This initiative constitutes the Foundation's largest contribution to small business.

Another important FAPESP initiative for supporting complementarity between basic and applied research that experienced significant advances in 2013 was the Research, Innovation and Dissemination Centers (RIDC) program. Following its formation in 2000, the RIDC program provided funding to 11 world-class research centers in several fields from 2001 to 2012. All of these projects achieved their proposed objectives. In 2011, a second call for proposals received 90 applications, which were analyzed extensively by 150 peer reviewers based in Brazil and abroad. In 2013, the program expanded with the announcement of 17 selected proposals. The 17 RIDC projects currently in operation connect 499 scientists from the state of São Paulo with 68 scientists from other countries. The centers will receive nearly $ PPP 611.08 million over an 11-year period.

FAPESP's emphasis on innovation, applied research and manufacturing integration is also exhibited through the work of Research Engineering Centers focusing on strategic areas of technology development in the state of São Paulo. FAPESP's support of these centers also reflects the Foundation's dedication to the production sector.

Prision Series, 1979
Color lithograph
52,5 x 34 cm

INTERNATIONALIZATION

A key aspect of accelerating the pace of innovation and of increasing the academic impact of research carried out in São Paulo involves improving the level of dialogue between scientists from São Paulo and their colleagues based in other countries, especially those at the forefront of global scientific knowledge generation. To this end, FAPESP has in recent years made considerable strides in promoting scientific cooperation initiatives between scientists based in São Paulo and in other nations.

In 2013, FAPESP Week science symposia were held in Japan, the United Kingdom and the United States, bringing together nearly 600 Brazilian and foreign researchers focusing on areas of common research interest. The symposium in Tokyo held in March was organized in cooperation with the Japan Society for the Promotion of Science (JSPS). The September event in London was organized in cooperation with the Royal Society with support from the British Council. In the United States, three cities in the state of North Carolina hosted events in November in partnership with the University of North Carolina at Chapel Hill, the University of North Carolina at Charlotte, North Carolina State University, and the Brazil Institute of the Woodrow Wilson International Center for Scholars.

From these events and similar events held previously and from various Foundation activities aimed at internationalization, the FAPESP in 2013 signed 22 cooperation agreements: three national and 19 international. Ten of these agreements were signed at events held at the FAPESP headquarters before audiences of 339 people.

At the international level, by the end of 2013, the FAPESP had signed 87 agreements, 53 of which involved institutions of higher education and research, 25 of which included research-sponsoring agencies, four of which involved companies, and five of which involved multinational institutions. The 19 international agreements that FAPESP signed in 2013 involved 11 different countries, four of which FAPESP had not previously maintained formal partnerships with: Japan, South Africa, Australia and Chile.

Among these new partners, FAPESP is now supporting collaborative research and promoting academic exchange in collaboration with three research-

sponsoring agencies and 16 universities. Agencies include: the Foundation for Science and Technology (FCT) of Portugal; the John E. Fogarty International Center (FIC) of the National Institutes of Health (NIH) of the United States Department of Health and Human Services; and the Direction Générale Opérationnelle Economie, Emploi & Recherche du Service Public de Wallonne (DGOEER) of Wallonia, Belgium.

The 16 universities are Stellenbosch University in South Africa; the Australian Technology Network of Universities (ATN) and University of Melbourne, both in Australia; McGill University and the University of Waterloo, both in Canada; Chile's Universidad de la Frontera; Spain's Universidade de Girona (UdG); Ohio State University and the University of Texas, both in the United States; Eindhoven University of Technology (TU/e) in the Netherlands; the University of Tokyo in Japan; and five additional institutions in the United Kingdom(Imperial College, Keele University, the University of Bath, the University of Cambridge, and the University of Manchester). Of the 55 funding opportunities announced in 2013, 44 offered funding for research in international research collaboration and scientific exchange, accounting for a 55% increase from 2012.

Consistent with the Foundation's commitment to meeting the needs of all fields of human knowledge indiscriminately, internationalization efforts of the FAPESP have sought to promote the dissemination of the arts at events it supports abroad as well as through its traditional practice of illustrating annual reports written in Portuguese and English with works by prominent artists living in São Paulo. This year, the featured artist is Renina Katz.

Nearly 300 individuals attended the launching ceremonies of the Brazilian Nature Mystery and Destiny Exhibition last year, and thousands more visited the exhibition during weeks it was open to the public in several foreign cities. In 2013, the exhibition was held for the first time to Erlangen, Germany, the birthplace of naturalist Carl Friedrich Philipp von Martius, one of the most important researchers of Brazilian flora. The exhibition includes illustrations, photographs and information that offers a glimpse into the biological diversity of Brazil as identified by Martius alongside depictions of scientific activities such as the BIOTA-FAPESP Program, which seeks to obtain a more accurate picture of Brazil's rare natural wealth and to engage in efforts to preserve it. The Brazilian Nature exhibition was also viewed by 2013 FAPESP Week

participants in London (United Kingdom), Tokyo (Japan), and the cities of Charlotte and Raleigh (in the U.S. state of North Carolina). The Brazilian Embassies in Tokyo and London hosted exhibitions held in these capitals. In North Carolina, the exhibition was presented at the University of North Carolina at Charlotte and at North Carolina State University.

As a result of its international activities, FAPESP has undergone a significant increase in media exposure in other countries, and particularly in scientific media outlets, but also in the popular press, which has generated an appreciable growth in interest among researchers based in other countries in the work of their São Paulo colleagues, resulting in an increase in foreign visits to the FAPESP website and in the number of subscribers to the Foundation's journalistic productions produced in languages other than Portuguese. For example, in 2013, initiatives by the Foundation and the research it supports were mentioned in 214 reports published in 110 media outlets in 28 countries, including in some of the world's most prestigious titles.

From this international exposure, FAPESP post-doctoral fellowships based in Brazil have attracted more researchers from abroad who travel to the state to work. In 2013, 20% of the awards were granted to researchers from other countries (190 of the 960 scholarship granted), and the majority of these awards were granted in the fields of exact sciences, earth sciences, biological sciences and engineering.

On the issue of internationalization, special mention is owed to the São Paulo School of Advanced Sciences (SPSAS), which connects a select group of São Paulo researchers with some of the world's most renowned scientists, including several Nobel Prize winners, for short-term advanced courses and discussions on future projects in São Paulo.

SUSTAINABILITY: BIOEN, BIOTA, AND CLIMATE CHANGE

Among FAPESP's most important ongoing projects are those that address topics of great significance to Brazil and to the world: the environment and sustainability. Programs dedicated to this issue include the FAPESP Bioenergy Research Program (BIOEN), the FAPESP Research Program on

Characterization, Conservation, Restoration and Sustainable Use (BIOTA) and the FAPESP Research Program on Global Climate Change (RPGCC), which all reported significant advances in 2013.

Coordination between these three programs was facilitated by the secretariat of the Scientific Committee on Problems of the Environment (SCOPE) headquartered at UNESCO to engage in a Rapid Assessment Process regarding Biofuels and Sustainability. This initiative is expected to generate a series of recommendations from academic, industrial, and governmental and non-governmental institutions on the sustainable expansion of biofuel use. To initiate these activities, the BIOEN-BIOTA-RPGCC-SCOPE Joint Workshop on Biofuels & Sustainability was held in February. The workshop was designed to identify and describe problems and challenges and to share perspectives on biofuel sustainability. A second preparatory meeting entitled the Workshop on Bioenergy & Sustainability was held in November.

In March, nearly 30 Brazilian and foreign experts in a variety of fields ranging from botany, geology and paleontology to remote sensing took part in the first face-to-face meeting of members involved in a thematic project that will investigate activity in the Amazon region over the past 20 million years. Open to the public on its first day, the event convened 260 individuals and served as a preparatory meeting for the project's researchers. The remaining three days consisted of closed-door meetings between specialists for discussing details of the current research. FAPESP and the National Science Foundation (NSF) are funding the project under an agreement that provides for the development of cooperative activities between the NSF "Dimensions of Biodiversity" Program and the FAPESP BIOTA program. The study is also supported by the National Aeronautics and Space Administration (Nasa) of the United States.

In 2013, the BIOTA-FAPESP program held a series of nine conferences that addressed threats to the biodiversity of marine and coastal environments in the six Brazilian biomes (Pampa, Pantanal, Cerrado, Caatinga, Atlantic Forest and Amazônia) and in rural and urban environments. The conferences, which were held from February to November, were attended by 780 individuals, including high school students and teachers, undergraduates and researchers. A team from *Pesquisa FAPESP* magazine produced eight videos about the conference that were made available for viewing on the magazine's website. The team

also produced a special DVD enclosed in a 2014 issue of the magazine that was distributed to public schools that lack regular Internet access.

In October of 2013, the BIOEN program promoted the first preparatory meeting of the second Brazilian Bioenergy Science and Technology Conference (BBEST), which is scheduled to take place in Campos do Jordão in October of 2014. Another BIOEN-related initiative was the June release of the "Flight Plan for Aviation Biofuels in Brazil: action plan," a report written by Boeing, Embraer and FAPESP under the coordination of UNICAMP that identified gaps in knowledge and established how Brazil may achieve a prominent position in the global aviation biofuels industry.

The FAPESP Research Program on Global Climate Change also held influential events in 2013. In February, its Workshop on the Brazilian Earth System Model welcomed 78 researchers from the PFPMCG, BIOTA, and BIOEN programs, along with general audiences interested in the progress of the Brazilian Earth System Model, a project composing one of the main pillars of the program.

In September, the Brazilian Research Network on Global Climate Change (CLIMATE Network) and the National Institute of Science and Technology for Climate Change (INCT-MC) sponsored the first National Conference on Global Climate Change (Conclima). The meeting discussed advances in knowledge on climate variability in Brazil and worldwide in support of environmental adaptation and mitigation strategies. More than 600 scientists and public policy makers took part in the meeting.

SCIENCE COMMUNICATION

Information on FAPESP activities continues to attract the interest of a variety of public audiences. Every day, media outlets across Brazil reproduce science and technology content from the *Agência FAPESP* website and publish information provided by the FAPESP Office of Communications. In 2013, FAPESP received positive mention in 10,469 articles. Various expressions of interest have led to nearly three million hits on the FAPESP portal, participation from more than 9,000 individuals at Foundation events, and four

million visits from the science community to the Foundation's Virtual Library (BV), which contains indexed information on all projects funded by FAPESP. In addition, 110,000 subscriptions have been made to the *Agência FAPESP* Daily Bulletin, 45,500 copies of the Pesquisa FAPESP monthly magazine have been published, and the *Agência FAPESP* and *Pesquisa FAPESP* magazine websites have received over one million hits. Also worthy of note within the scope of science communications is the fifteenth anniversary of the SciELO Network, which was commemorated during an international conference that coincided with the certification of the SciELO South Africa free online portal.

RENINA KATZ

This report is illustrated by samples of works by artist Renina Katz, one the premier names in 20th and 21st century Brazilian visual arts. Carioca by birth, but residing in São Paulo since 1951, Renina taught engraving at the Assis Chateaubriand Museum of Art of São Paulo (Masp) and later at the Armando Álvares Penteado Foundation (Faap) until the 1960s. She then began to teach at the School of Architecture and Urbanism at the University of São Paulo, where she completed her Master's and Doctorate degrees and where she has remained for 28 years. The work of Renina Katz is especially meaningful to FAPESP because, in addition to Katz's exceptional artistic career, Katz has also led a well-established and productive academic life and has trained individuals in teaching and research, which form the basis of the Foundation's ultimate mission.

Katz has devoted a large portion of her notable body of work to social issues, addressing such topics as migrant workers, slums and the world of urban laborers. More recently, she has moved away from a focus on social realism toward a non-figurative approach that involves the play of transparencies. In the 1970s, Katz began to produce lithographs that feature various landscapes.

Celso Lafer
FAPESP President

Imaginary Territories Series, 1983
Color lithograph
27,5 x 30,5 cm

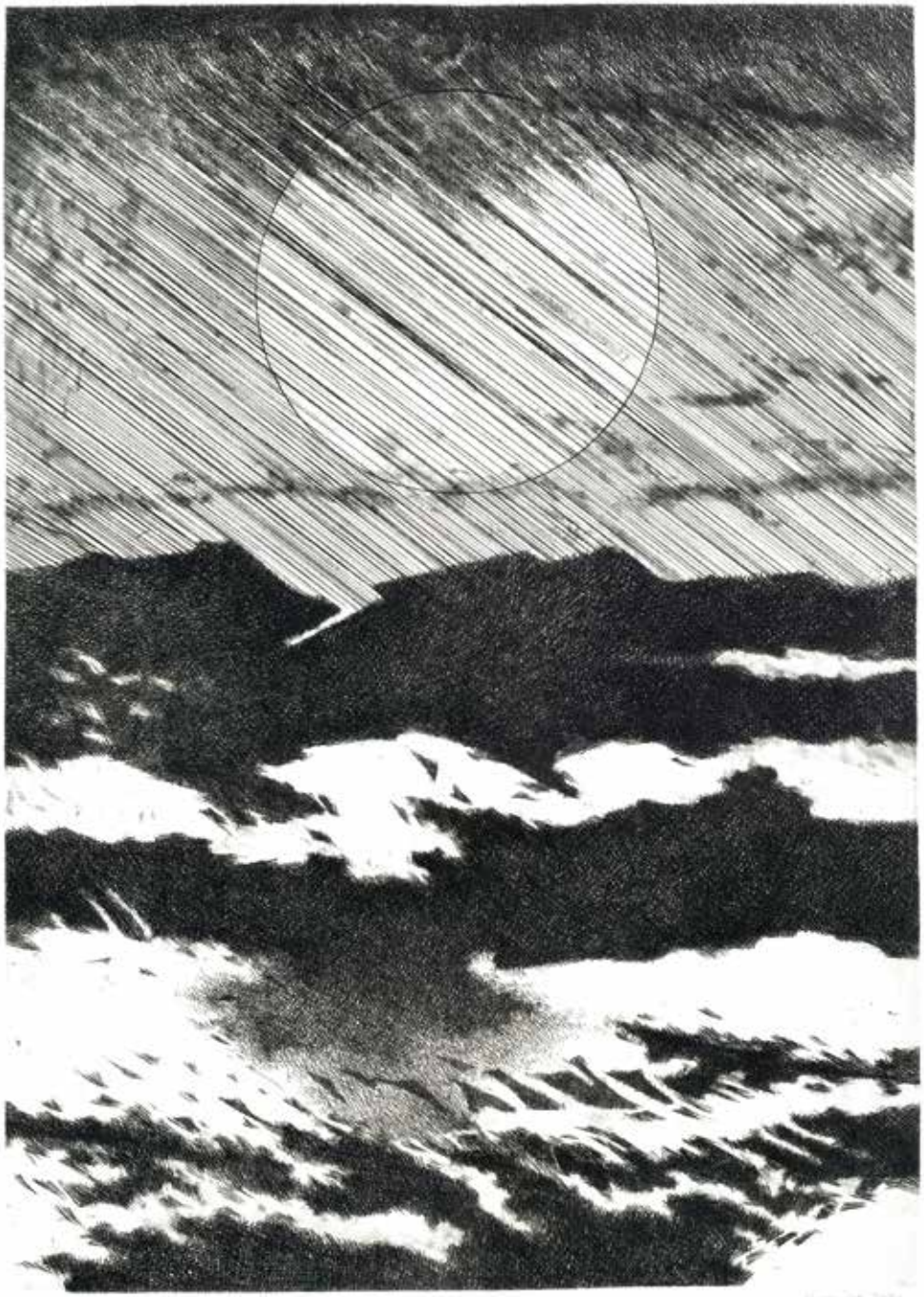
THE INSTITUTION

The São Paulo Research Foundation (FAPESP) is one of Brazil's leading funding agencies for scientific research. FAPESP supports research in all fields of knowledge through fellowships and research grants, in addition to other funding efforts, for the investigation, scientific exchange and dissemination of science and technology in the State of São Paulo.

FAPESP's financial support is guided by three clearly defined objectives: advancing knowledge, application-driven research and research infrastructure.

To meet these objectives, the Foundation offers fellowships and research grants to projects that are developed by researchers in the State of São Paulo that are linked to public or private higher education and research institutions in all fields of knowledge. The fellowships and grants are contracted under the auspices of FAPESP's programs, which are distributed in three funding lines: the Regular Line (or Regular Program), Special Programs and Research Programs for Technological Innovation.

Under the São Paulo State Constitution, one percent of all state tax revenue (excluding the percentage that is transferred to municipalities) is appropriated to fulfill FAPESP's established mission.



MANAGEMENT

Under the State Constitution, FAPESP is an autonomous entity. A Board of Trustees and an Executive Board manage the Foundation. The Board of Trustees is responsible for setting the Foundation's general guidelines and for making the larger scientific, administrative and patrimonial policy decisions. The Board is formed of 12 trustees who serve six-year terms. Six of the trustees are appointed by the governor, and the remainder are appointed by the governor based on a three-fold list of nominees, all of whom are nominated by public or private higher education and research institutions in the State of São Paulo. The president and vice-president of the board are appointed by the governor and are based on a three-fold list that is prepared by the Board of Trustees and its members.

BOARD OF TRUSTEES

The president of FAPESP also presides over the Board of Trustees and is the legal representative of the Foundation.

Composition of the Board of Trustees on December 2013

Celso Lafer (president)
Eduardo Moacyr Krieger (vice-president)
Alejandro Szanto de Toledo
Fernando Ferreira Costa
Horacio Lafer Piva
João Grandino Rodas
José de Souza Martins
Maria José Soares Mendes Giannini
Marilza Vieira Cunha Rudge (beginning December 13, 2013)
Pedro Luiz Barreiros Passos (beginning August 31, 2013)
Suely Vilela
Yoshiaki Nakano

The following trustees completed their terms in 2013: Herman Jacobus Cornelis Voorwald (ending December 13, 2013) and Luiz Gonzaga de Mello Belluzzo (ending August 31, 2013).

Desert, 2001
Etching and aquatint
57,5 x 41,2 cm

EXECUTIVE BOARD

The Foundation's Executive Board constitutes the executive directorship of FAPESP and is formed by the Chair, the Scientific Director and the Administrative Director, who each serve three-year terms. All directors are appointed by the Governor based on a three-fold list that is compiled by the Board of Trustees.

MEMBERS OF THE EXECUTIVE BOARD OF FAPESP IN DECEMBER 2013

José Arana Varela (Chief Executive)
Carlos Henrique de Brito Cruz (Scientific Director)
Joaquim José de Camargo Engler (Administrative Director)

FAPESP INCOME AND EXPENDITURES EM 2013

FAPESP income totaled 509.96 million in $ purchasing power parity (PPP) in 2013. This sum refers to resources transferred by the State Treasury (82%) and other sources of income (18%), including resources of its own (working capital) and resources from agreements signed with research-sponsoring agencies, companies and other Brazilian and foreign institutions interested in selecting and funding collaborative research proposals with FAPESP in areas of mutual interest.

By law, FAPESP must maintain profitable equity for investments in research in order to complement the resources received from the State Treasury.

The Foundation funds research in all fields of knowledge. In 2013, funding outlays reached $ PPP 481.51 million.

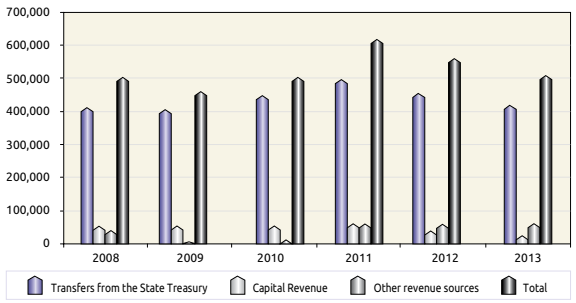
Health is the field that traditionally receives the largest volume of resources due to the high number of researchers concentrated in the state of São Paulo. This was a recurrent trend in 2013, when health-oriented research received 30.77% of total FAPESP disbursements – $ PPP 148.15 million. Other fields that traditionally receive more funds are as follows: biology, $ PPP 77.36 million (16.07%); human and social sciences, $ PPP 49.12 million (10.20%); engineering, $ PPP 46.63 million (9.69%); and agronomy and veterinary sciences, $ PPP 44.94 million (9.34%). Although not among the fields receiving the largest allocation of resources, science and computer engineering saw a

110% increase over the previous year.

In terms of the institutional affiliation of researchers, the largest volume of resources went to universities and research institutions whose research groups focus on these fields. In 2013, 46.86% of the funds, $ PPP 225.64 million, went to projects coordinated by researchers at the University of São Paulo (USP). Projects at the São Paulo State University (Unesp) received $ PPP 70.63 million (14.67%), and $ PPP 66.48 million (13.81%) was directed toward projects at the University of Campinas (Unicamp). Federal institutions of higher education and research in the state of São Paulo received $ PPP 61.60 million (12.79%).

GRAPH 1

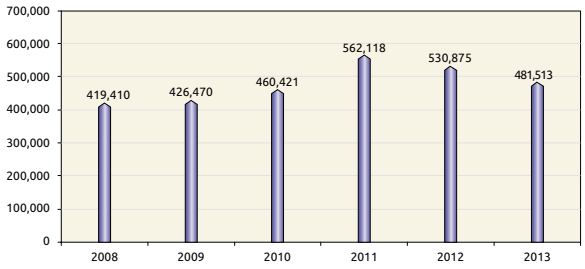
Evolution of FAPESP income in the 2008-2013 period (in millions of $ PPP)



PPP = purchasing power parity

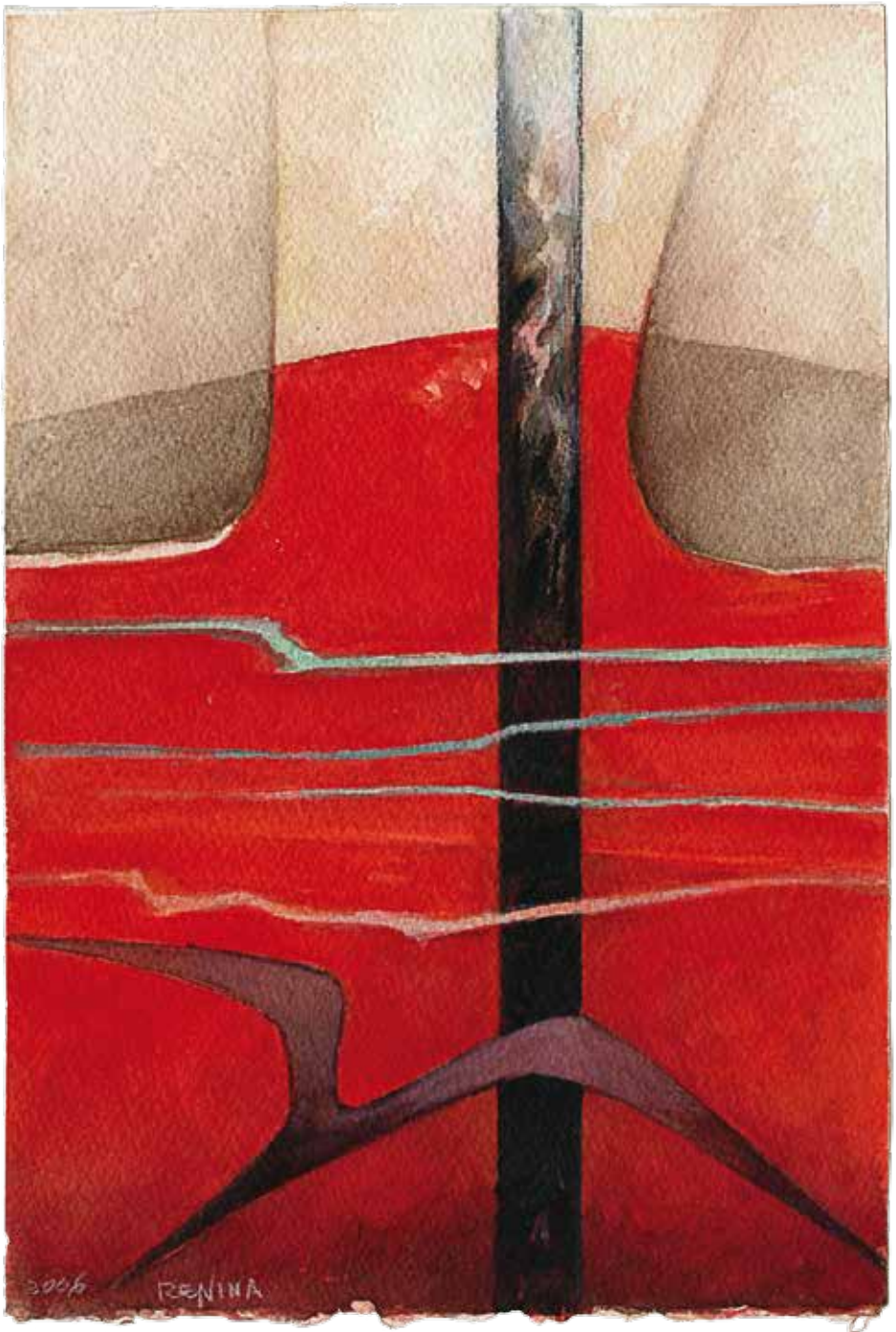
GRAPH 2

Evolution of FAPESP funding expenditures in the 2008-2013 period (in millions of $ PPP)



PPP = purchasing power parity

Untitled, 1995
Watercolor
76 x 56 cm


2006
RENINA

EXPENDITURES BY FUNDING OBJECTIVE

Since 2012, FAPESP has classified its funding programs into the following categories: Advancing Knowledge, Application-Driven Research and Research Infrastructure.

FAPESP's support to Advancing Knowledge is regarded as vital to expanding the frontiers of knowledge. It encompasses programs that train human resources and foster academic research and is performed through the granting of fellowships and regular research grants in the form of thematic projects and research grants under the scope of the following programs: Young Investigator Awards, São Paulo Excellence Chairs (SPEC) and Training Human Resources for Research (Technical Capacity-Building).

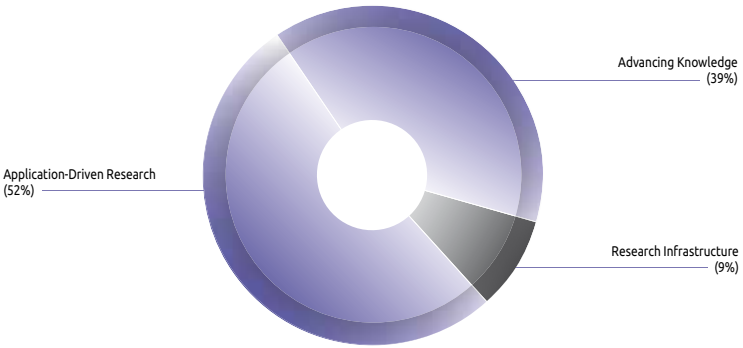
Support to Application-Driven Research has clear investment objectives that serve economic and social interests. It is performed through FAPESP investments in research in the fields of agronomy and veterinary sciences, engineering and health, which nearly always lead to applications, through Partnerships for Technological Innovation programs that promote innovative research in small companies, partnerships between companies and universities for joint development of knowledge specific to particular companies, and studies that support the formulation of public policies, in addition to the Foundation's Special Programs, such as Inter-institutional Cooperation in Brain Research (CInAPCe), Public Education and Scientific Journalism (MídiaCiência / Science Media).

Untitled, 2006
Watercolor
29 x 19 cm

Support to Research Infrastructure includes resource outlays to obtain the necessary infrastructure for continuity of research in the state of São Paulo, such as improving, modernizing and equipping laboratories and updating library collections at institutions of higher education and research, in addition to guaranteeing researchers fast Internet access.

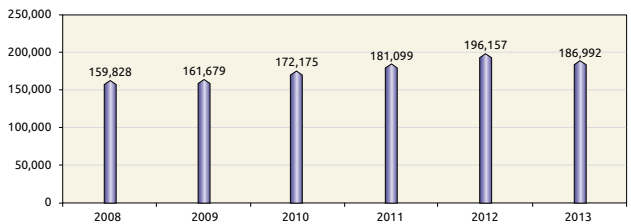
GRAPH 3

Classification of FAPESP expenditures in 2013 by funding objective



GRAPH 4

Evolution of FAPESP expenditures on advancing knowledge (in millions of $ PPP per year)

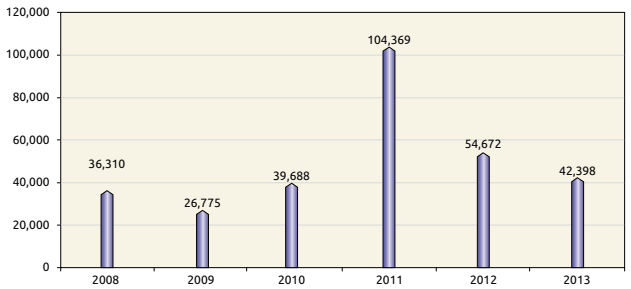


PPP = purchansing power parity

In 2013, expenditures by funding objectives were as follows:
Advancing Knowledge: $ PPP 186.99 million (39%)
Application-Driven Research: $ PPP 252.12 million (52%)
Research Infrastructure: $ PPP 42.39 million (9%)

GRAPH 5

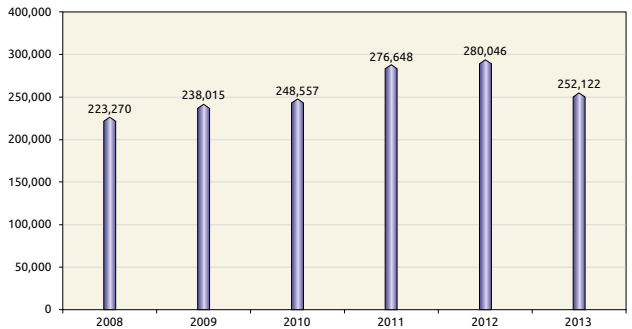
Evolution of FAPESP expenditures on research infrastructure (in millions of PPP per year)



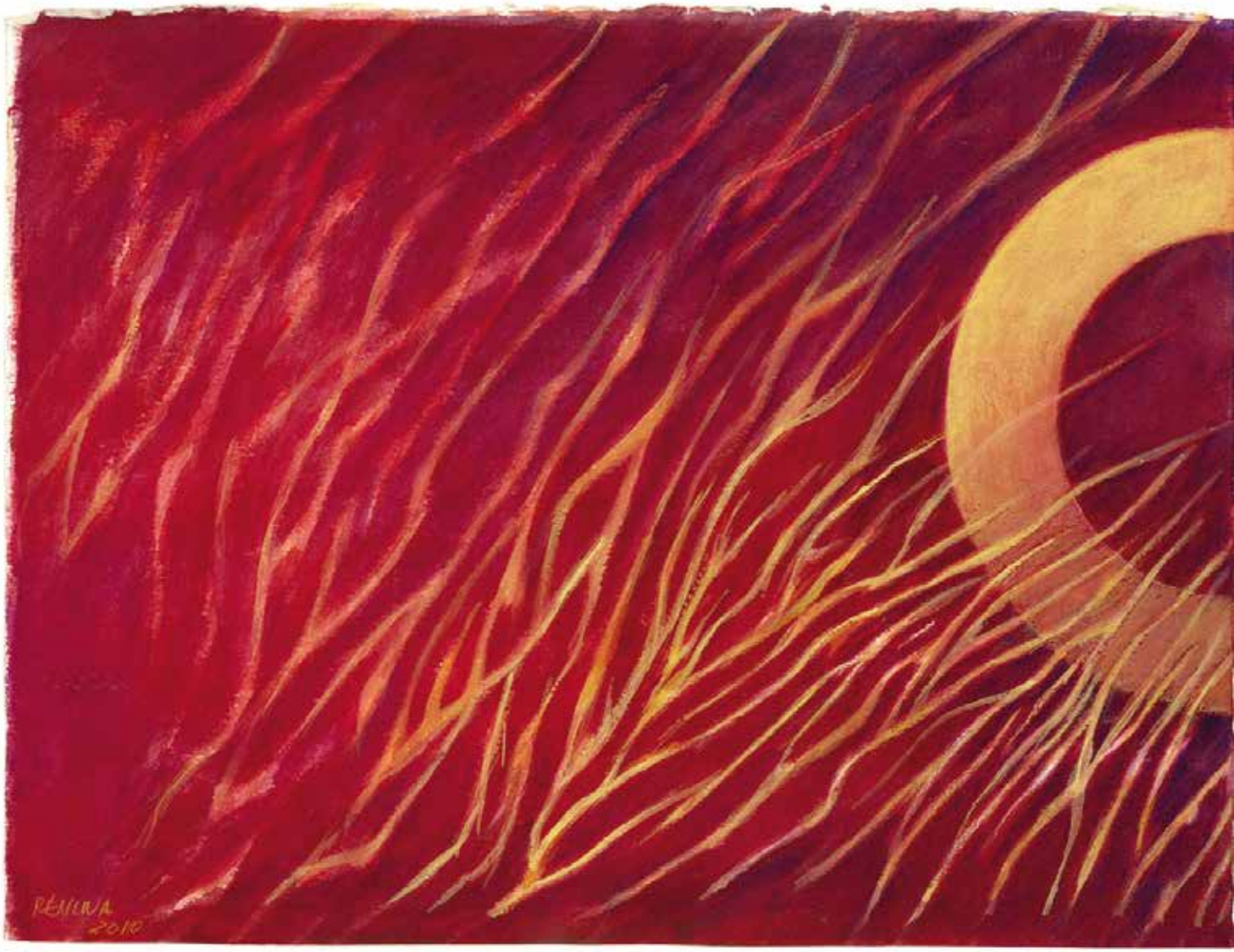
PPP = purchansing power parity

GRAPH 6

Evolution of FAPESP expenditures on application-driven research (in millions of PPP per year)



PPP = purchansing power parity


RENEVA
2010

Untitled, 2010
Watercolor
38 x 112 cm

EXPENDITURES BY FUNDING LINE

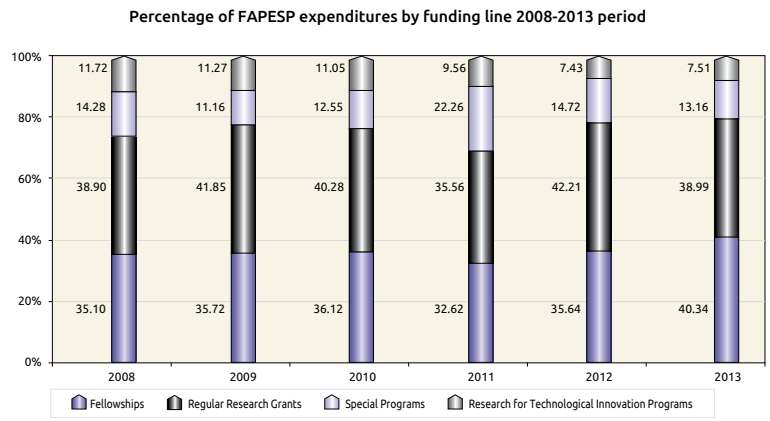
FAPESP classifies its research projects into three funding lines: Regular Programs, Special Programs and Research for Technological Innovation.

Regular Programs allow researchers to submit proposals that are considered for acceptance throughout the year and are the Foundation's traditional and ongoing means of funding. Special Programs are designed to encourage research in cutting-edge fields and to meet needs in the São Paulo State science and technology system. Research and Technical Innovation Programs fund projects that have the potential for developing new technologies or contributing to the formulation of public policies.

In 2013, the expenditures by funding line were as follows:

Fellowships: $ PPP 194.19 million (40.34%)
Regular Research Grants: $ PPP 187.73 million (38.99%)
Special Programs: $ PPP 63.32 million (13.16%)
Research for Technological Innovation Programs: $ PPP 36.25 million (7.51%)

GRAPH 7



In 2013, the following programs were in effect under the respective funding lines:

REGULAR RESEARCH

Fellowships

Brazil
- *Scientific and/or Technological Initiation*
- *Master's*
- *Doctorate*
- *Direct Doctorate*
- *Post-Doctorate*

Abroad
- *Research (BPE)*
- *Research Internships Abroad (BEPE)*

Regular Research Grants
- *Research Project Grants*
  - *Regular Research Grants*
  - *Research Grants - Thematic Projects*
- *Visiting Researcher Program*
- *Organization of Scientific or Technological Meetings*
  - *São Paulo School of Advanced Sciences (SPSAS)*
- *Participation in Scientific or Technological Meetings*
- *Scientific Publications*
- *Equipment Repair*

SPECIAL PROGRAMS

- *Young Investigators Awards*
- *Inter-institutional Cooperation in Brain Research (CINAPCE)*
- *Public Education*
- *Scientific Journalism (Mídia Ciência/Science Media)*
- *São Paulo Excellence Chairs (SPEC)*
- *Training Human Resources for Research (Technical Capacity-Building)*
- *Program for Research Infrastructure*
  - *Research Infrastructure*

ANSP Network
FAP-Livros Book Program
Multiuser Equipment (EMU) Program
Technical Reserves Institutional
Research Infrastructure
Technical Reserves for ANSP Network
Technical Reserves for Program Coordination

RESEARCH FOR TECHNOLOGICAL INNOVATION PROGRAMS

BIOTA-FAPESP Program
FAPESP Bioenergy Research Program (BIOEN)
FAPESP Research Program on Global Climate Change (RPGCC)
Research, Innovation and Dissemination Centers (RIDC)
FAPESP Research Program on eScience (eSCIENCE)
Public Policy Research Program
  Public Policy Research
  Public Policies for the National Health Care System (PP-SUS)
Programs for Research in Small Business
  Innovative Research in Small Companies (PIPE)
  Small Business Research (PIPE Fase3:PAPPE/Finep)
Partnership for Technological Innovation Programs
  Research Partnership for Technological Innovation (PITE)
  Research Partnership for Technological Innovation-SUS (PITE-SUS)
Program for Support of Intellectual Property (PAPI/NUPLITEC).

NUMBER OF PROJECTS CONTRACTED

In 2013, 12,393 new research projects were contracted among all funding lines.

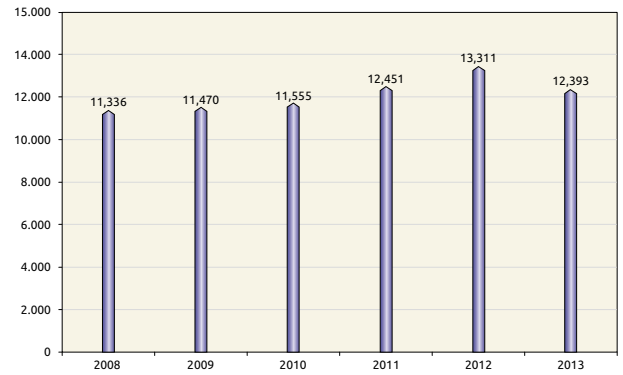
Fellowships: 7,193
Regular Research Grants: 3,844
Special Programs: 1,087
Research for Technological Innovation Programs: 269

In 2013, the average scholarships for the year numbered 11,840, including Regular Scholarships in Brazil (Undergraduate, Master's, Doctorate, Fast-Track

Doctorate and Post-Doctorate) and grants contracted under the Young Investigators, Scientific Journalism, Technological Innovation in Small Businesses (PIPE) and Human Resources Training (Technical Training) programs. This number refers to the average number of monthly payments made during the year, either for scholarships contracted this year or for those contracted in previous fiscal years for ongoing research.

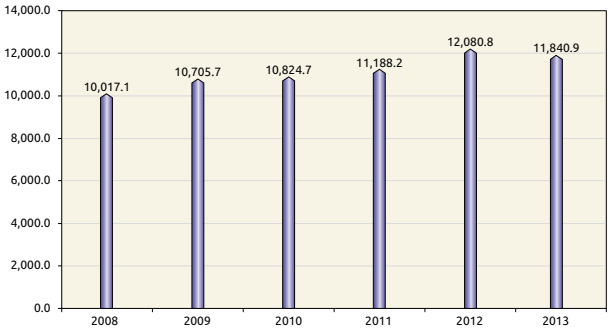
GRAPH 8

Evolution of the number of FAPESP´s contracted projects – 2008-2013



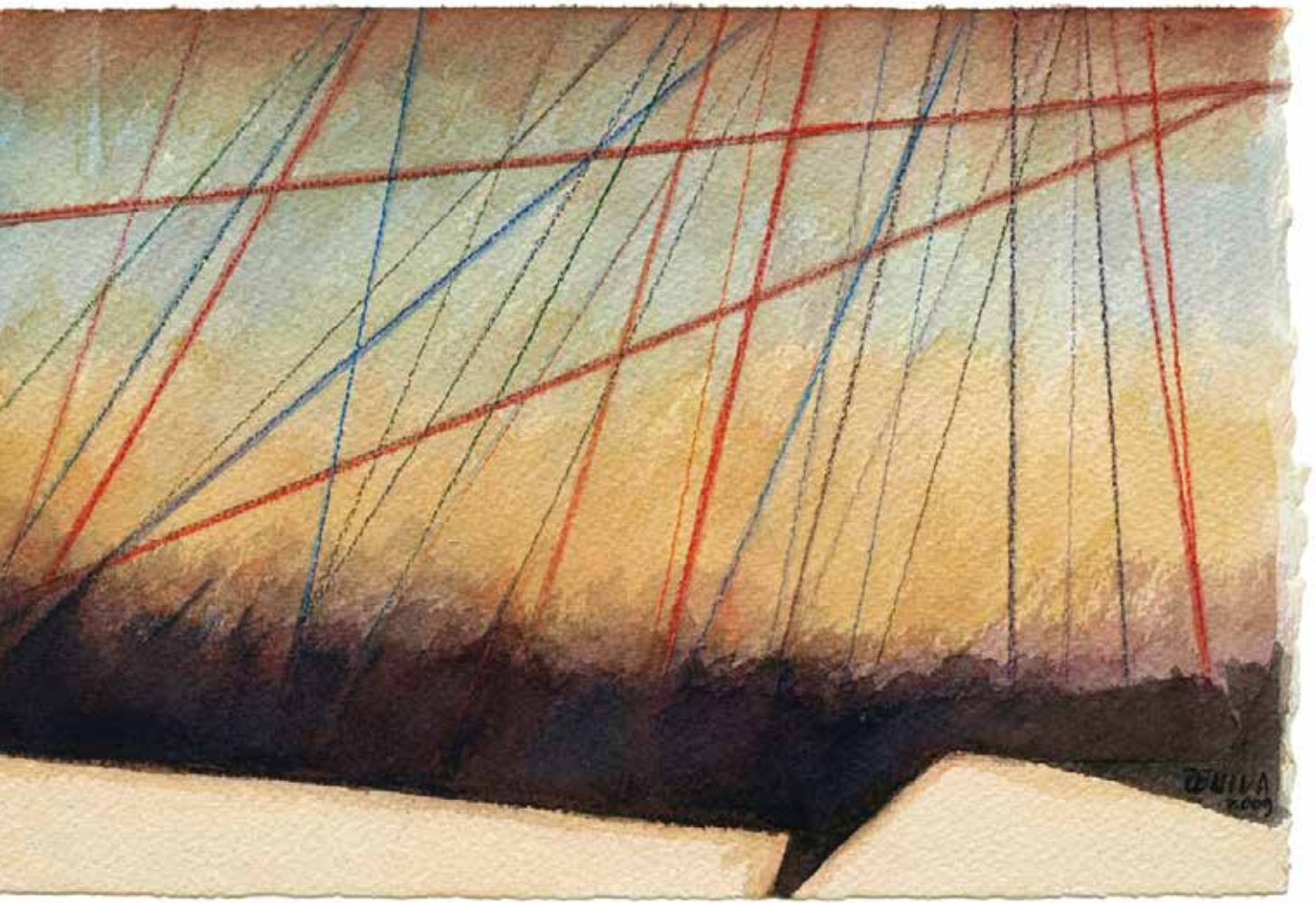
GRAPH 9

Evolution of the number of active fellowships* – 2008-2013



* Mean annual number of fellowships paid monthly


RK
2009



Untitled (diptych), 2009
Watercolor
19 x 29 cm (each)

Untitled, 1998
Watercolor
77 x 102 cm

OVERVIEW OF FAPESP ACTIVITIES IN 2013

SUMMARY OF 2013

Income: $ PPP 509.96 million.
Expenditure with funding: $ PPP 481.51 million.

Expenditure by funding objective:
- Advancing Knowledge: $ PPP 186.99 million (38.84%).
- Research Infrastructure: $ PPP 42.39 million (8.80%).
- Application-driven research: $ PPP 252.12 million (52.36%).

Expenditure by funding line:
- Fellowships: $ PPP 194.19 million (40.34%).
- Regular Grants: $ PPP 187.73 million (38.99%).
- Special Programs: $ PPP 63.32 million (13.16%).
- Research Programs for Technological Innovation: $ PPP 36.25 million (7.51%).

The outlays pertain to the expenditures with projects contracted in 2013 and in previous years that are still active.

Number of New Projects Contracted in 2013:
- Fellowships: 7,193 (58.04%).
- Regular Grants: 3,844 (31.02%).
- Special Programs: 1,087 (8.77%).
- Research Programs for Technological Innovation: 269 (2.17%).

In 2013, FAPESP received 12,189 requests for scholarships in Brazil and abroad, 10.58% more than in 2012. The largest volume of requests (3,602) and scholarships awarded (2,331) were for Undergraduate Scholarships. Post-doctoral fellowships in Brazil also attracted many foreigners. In 2013, researchers from other countries accounted for 20% of the awards (190 of the 960 scholarships granted), and these were most frequently awarded in the fields of exact sciences, earth sciences, biological sciences and engineering. Among Brazilians who receive Scholarships for Research Internships Abroad (BEPE),

the United States is the preferred destination for recipients in the field of biological sciences, whereas France and Portugal are more popular destinations among recipients in the field of human sciences. The United Kingdom and Germany have traditionally attracted more Brazilians in the biological, exact and earth sciences, whereas Canada and Spain typically attract recipients from a variety of other fields.

INTERNATIONAL COOPERATION

Promoting academic exchanges and expanding international research collaboration are of vital importance for increasing the impact of science conducted in São Paulo, and to this end, FAPESP has strengthened its scientific cooperation initiatives.

In 2013, the Foundation hosted FAPESP Week science symposia in Japan, the United Kingdom and the United States, bringing together nearly 600 Brazilian and foreign researchers in areas of common research interest. At the March meeting in Japan, the symposium was organized in cooperation with the Japan Society for the Promotion of Science (JSPS). The London event was organized in cooperation with the Royal Society with support from the British Council. In the United States, three cities in the state of North Carolina hosted events in partnership with the University of North Carolina at Chapel Hill, the University of North Carolina at Charlotte, North Carolina State University, and the Brazil Institute of the Woodrow Wilson International Center for Scholars. At each FAPESP Week 2013 location, participants were also able to visit the *Brazilian Nature Mystery and Destiny Exhibition*, which displays the documentation work of German naturalist Carl Friedich Philipp von Martius, one of the most important researchers of Brazilian flora. For the first time, the exhibition was taken to Erlangen, Germany, the birthplace of Martius.

The science internationalization strategy implemented in São Paulo involves the signing of scientific cooperation agreements with institutions of higher education, research-sponsoring agencies and foreign companies. In 2013, 19 of the 22 partnerships for joint research funding were signed with institutions in 11 different countries. Of the 63 funding opportunity announcements published in 2013, 44 offered funding for international research collaboration. FAPESP also received visits from 15 delegations of countries that included Australia, The

Untitled, 2010
Watercolor
28 x 38 cm

Netherlands, Israel, Belgium, Ireland, Scotland, Japan, Switzerland, China and Canada, all with an interest in establishing partnerships with the Foundation. These initiatives also contributed to greater international media exposure for FAPESP. During the year, the Foundation's initiatives and the research it funds were mentioned in 214 articles published in 110 media outlets in 28 countries.

RESEARCH CENTERS

Worthy of mention in the domestic realm are FAPESP's initiatives to encourage innovation with a view toward achieving international visibility and increased academic and market competitiveness. One such initiative is the selection of 17 new Research, Innovation and Dissemination Centers (RIDCs). The RIDC Program began in 2000 with funding to 11 world-class research centers in several fields from 2001 to 2013, all of which achieved the objectives they had proposed. In 2011, a second round of calls for proposals was announced that led to the selection of 17 new RIDCs that bring together 499 scientists from the state of São Paulo with 68 scientists from other countries. The centers will receive nearly $ PPP 611.08 million over an 11-year period.

Another example is the Research Engineering Centers in strategic areas for technology development in the state of São Paulo. The year 2013 saw the announcement that the Research Center for Innovation in Natural Gas would be established with BG Brasil, the Center of Excellence for Research in Sustainable Chemistry would be established in partnership with GlaxoSmithKline, the Center for Applied Research in Well-Being and Human Behavior would be established with Natura, and the Prof. Urbano Ernesto Stumpf Center for Research in Engineering, dedicated to research on engines and ethanol, would be established through a partnership with Peugeot Citroën Brasil. FAPESP and its partner companies will share investments of $ PPP 49.76 million over a 5-10 year period.

Also significant are the strides made in the number of small companies interested in presenting innovative projects. FAPESP incentives available through its Innovative Research in Small Companies (PIPE), and events under the program Dialogue to Support Innovative Research in Small Business significantly contributed both to expanding the number of interested companies and to increasing submissions of quality projects. In 2013, the number of

projects contracted through this grant mechanism doubled, reaching 167, and a record 144 research grants were implemented during the year.

Information about FAPESP activities continues to attract the interest of various stakeholders. Every day, media outlets all over Brazil reproduce science and technology content from the *FAPESP News Agency* website and publish information provided by the FAPESP Office of Communications. In 2013, FAPESP received positive mention in 10,469 articles. Various expressions of interest have led to nearly three million hits on the FAPESP portal and the participation of more than 9,000 people at Foundation events, in addition to 4 million inquiries by the science community of the Virtual Library (BV), which contains indexed information on all projects funded by FAPESP. Added to these are 110,000 subscriptions to the *FAPESP News Agency* Daily Bulletin, the monthly publication of 45,500 copies of the *Pesquisa FAPESP* magazine, and over 1 million hits on the websites of the *FAPESP News Agency* and the *Pesquisa FAPESP* magazine.

Untitled, 2010
Watercolor
19 x 29 cm

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