



FAPESP

60 YEARS
1962 - 2022



SCIENCE, CULTURE AND DEVELOPMENT

In 2022, FAPESP celebrated 60th anniversary of the enactment of Decree 40,132 by São Paulo State Governor Carlos Alberto de Carvalho Pinto. He signed the decree on May 23, 1962, to approve FAPESP's bylaws and authorize it to start operating immediately.

The official ceremony, held on May 25, was attended by prominent members of the scientific community, political leaders, rectors, pro-rectors, heads of research institutions, corporate executives and researchers, among others.

“The creation of a research funding agency in São Paulo State resulted from coordinated actions by scientists, academics, politicians, intellectuals and journalists to promote scientific and technological development in the state,” Marco Antonio Zago, President of FAPESP, said in his address to the assembled guests at the commemorative event.

In the 60 years since its inception, FAPESP awarded **180,000 scholarships** to support the education and training of new researchers, and **130,000 research grants**, almost a third of which were for robust, high-value, long-term projects. It also spearheaded major scientific and technological changes in Brazil, such as implementation of the internet, genomics, and bioinformatics.



Photo: São Paulo State Archives (APESP)

Governor Carlos Alberto de Carvalho Pinto signs Law 5,918 establishing FAPESP at Palácio Campos Elíseos on October 18, 1960. Nineteen months later (on May 23, 1962), he signed Decree 40,132 to approve FAPESP's bylaws and authorize it to start operating immediately.



Image: Phelipe Jamning/FAPESP

The ceremony held to commemorate FAPESP's 60th anniversary on May 25, 2022, was attended by Marco Antonio Zago, President of FAPESP; Carlão Pignatari, President of the São Paulo State Assembly (ALESP); Zeina Latif, São Paulo State Secretary for Economic Development; Josué Gomes da Silva, President of the São Paulo State Federation of Industry (FIESP); David Uip, São Paulo State Secretary for Health Science, Research and Development, representing Governor Rodrigo Garcia; Helena Nader, President of the Brazilian Academy of Sciences (ABC); Carlos Américo Pacheco, CEO of FAPESP; rectors, pro-rectors, heads of research institutions, corporate executive, researchers, and other guests.

New investments in research activities totaling **\$ PPP 383.7 million** were announced at the event:

- Three Engineering Research Centers (ERCs)
- 15 Science for Development Centers (SDCs)
- A call for proposals to establish three new Research, Innovation and Dissemination Centers (RIDCs)
- Researchers at Risk
- Project Generation
- Proeduca, in partnership with the São Paulo State Department of Education
- Amazon+10, in partnership with state research funding agencies throughout the Amazon region
- Three new calls for proposals to build or upgrade research infrastructure

“FAPESP’s initiatives will increase in the years ahead, thanks to the rapid recovery of São Paulo’s economy and the state’s rising tax revenue, as well as the decision by FAPESP’s Board of Trustees to require highly prudent management of our resources during the pandemic,” said Carlos Américo Pacheco, CEO of FAPESP.

Dr. David Uip, an Infectious disease specialist and São Paulo State Secretary for Health Science, Research and Development, represented Governor Rodrigo Garcia at the event and stressed the state government's historical commitment to science, research, innovation and development. The importance of partnering with private enterprise was highlighted by Zeina Latif, São Paulo State Secretary for Economic Development.

The Brazilian scientific community was represented at the ceremony by Helena Nader, President of the Brazilian Academy of Sciences (ABC), who said she considered FAPESP "a great Brazilian institution".

Carlão Pignatari, President of the São Paulo State Assembly (ALESP), spoke of gratitude for the history FAPESP is building for São Paulo. Josué Gomes da Silva, President of the São Paulo State Federation of Industry (FIESP), said the longstanding support given to science and technology by FAPESP and the state government explains why São Paulo leads the national industrial scene.

Also attending the event were Celso Lafer and Carlos Vogt, former Presidents of FAPESP; José Fernando Perez, a former Scientific Director of FAPESP; Evaldo Ferreira Vilela, President of the National Council for Scientific and Technological Development (CNPq); heads of public universities in São Paulo State; directors of research institutions; and researchers.

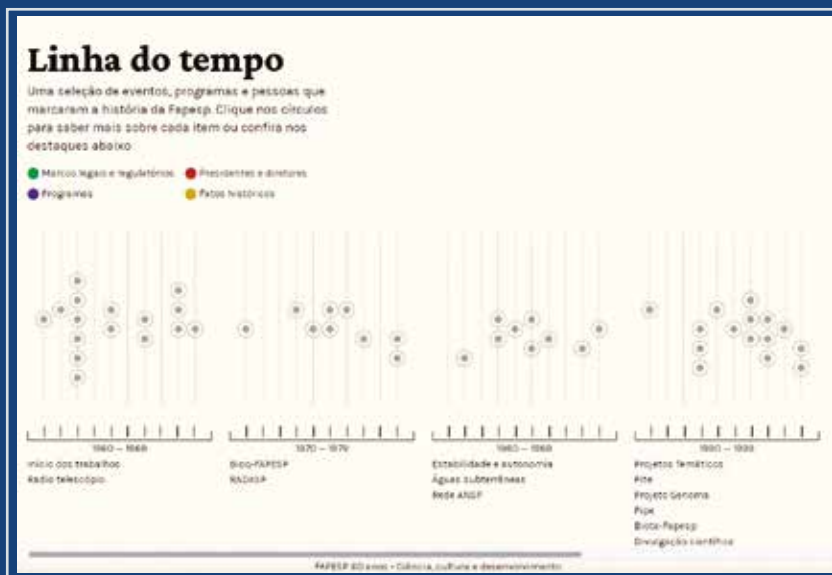


A recording of the entire event can be watched on *Agência FAPESP's* YouTube channel.

Commemorations leading up to the anniversary began on May 27, 2021, with the launch of the website “FAPESP and the Sustainable Development Goals”, which indexes the portfolio of programs and projects supported by FAPESP to each of the 17 SDGs, with the aim of facilitating access to the research and as a contribution to public policy in the areas concerned. June saw the launch of a series of FAPESP 60 Years Lectures, held monthly and featuring prominent scientists from Brazil and abroad in well-founded reflection on the future via discussions of strategic topics such as climate change, biodiversity, violence and education, among others. Seventeen events in the series were held between June 2021 and December 2022, as well as two FAPESP 60 Years Schools – one in Exact, Natural and Life Sciences, and the other in Humanities, Social Science and the Arts.



All the initiatives associated with the anniversary can be accessed at 60anos.fapesp.br, which also exhibits biographies of leaders and a timeline with a selection of noteworthy events, programs and personalities in the history of FAPESP.



FAPESP 60 YEARS: SCIENCE, CULTURE AND DEVELOPMENT



The tenth and last digital installment of a book entitled *FAPESP 60 anos – Ciência, cultura e desenvolvimento* was issued in April 2022. Edited by Carlos Vogt, a former President of FAPESP and a former Rector of the State University of Campinas (UNICAMP), the book recounts FAPESP's activities in the six decades since its inception and the achievements of researchers in São Paulo State. All ten chapters of the book are available in Portuguese

at 60anos.fapesp.br/livro. The chapter headings are as follows: Six decades of achievements, DNA of São Paulo's science, Digital pioneering, Major projects, Evidence-based public policies, Social, cultural and artistic contributions, Innovation and entrepreneurship, Diversity and inclusion, Lessons of the pandemic, and Looking ahead.

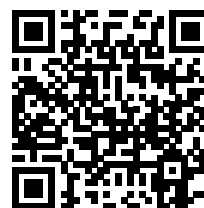
FAPESP 60 ANOS: SCIENCE AND BRAZILIAN DEVELOPMENT

Also to commemorate FAPESP's 60th anniversary, the São Paulo State Academy of Sciences (ACIESP) held a series of meetings with senior researchers from Brazil and abroad, as well as young scientists affiliated with institutions across the state, for a critical analysis of the state of the art in science in São Paulo and Brazil, and a discussion of research opportunities in the years ahead. The topics analyzed were discussed in seven seminars and summarized in eight chapters of *FAPESP 60 anos: A Ciência no desenvolvimento nacional*. The complete book in Portuguese can be accessed at: fapesp.br/publicacoes/2022/aciesp_livro.pdf. Separate chapters are available at: 60anos.fapesp.br/aciesp-eventos.



COMMEMORATIVE CONCERT

On the evening of May 30, 2022, a concert took place at Sala São Paulo to celebrate FAPESP's 60th anniversary. It featured the University of São Paulo Symphony Orchestra (OSUSP) conducted by Luiz de Godoy; the Municipal Theatre Choir conducted by Máira Ferreira; the Campinas Contemporary Choir conducted by Ângelo José Fernandes; the Percussion Group at São Paulo State University's Arts Institute led by Carlos Stasi and Eduardo Giancesella; and soprano Érika Muniz, mezzo-soprano Laiana Oliveira, tenor Marcus Loureiro and bass Luis Felipe Sousa, with Gabriele Leite playing solo guitar. The program included Mozart's Requiem, in memory of the Brazilians who died from COVID-19 (then more than 660,000); and pieces by the best Brazilian composers, from Villa-Lobos and Camargo Guarnieri to Antônio Carlos Jobim and Ary Barroso. The concert was broadcast by TV Cultura and can be watched on YouTube www.youtube.com/watch?v=UIYQwn3gZhs.



Photos: Claudia Mifano

FAPESP 60 YEARS SCHOOLS

The events held to celebrate FAPESP's 60th anniversary included two São Paulo Schools of Advanced Science:



The forecast that Earth's average temperature will rise 2 degrees Celsius (°C) by the end of the century has not been taken seriously by most governments and corporations around the world.

Even if all the countries that have promised to reduce emissions of carbon dioxide (CO₂) fulfill their commitments, global temperatures are likely to continue rising. Mitigation must remain a priority, but we must also prepare to adapt to a rise of 3°C-5°C by 2100. This is the view of climate scientist Guy Brasseur, Director of the Max Planck Institute for Meteorology in Germany.

Brasseur was a member of the United Nations Intergovernmental Panel on Climate Change (IPCC) when it shared the Nobel Peace Prize with Al Gore in 2007. He was the keynote speaker on the last day of the School.



Among the topics discussed by the participants was a study conducted by the researchers at the Center for Metropolitan Studies (CEM), one of the Research, Innovation and Dissemination Centers (RIDCs) supported by FAPESP. According to the preliminary results, social inclusion improved steadily in Brazil from its return to democracy in 1984 until 2014, as evidenced by the fact that incomes for the poorest members of the population rose faster than for the richest, owing to factors such as pay raises and spending on public policies for the most vulnerable. The consistent decrease in income inequality began reversing in 2015, when it was interrupted by a severe labor market crisis. In this context, the poorest have lost most to the sharp fall in employment and wages combined with a lack of social policies to protect them and sharp cuts to social programs.

FAPESP 60 YEARS CONFERENCES

Besides the seven conferences held in 2021 as part of the celebration of FAPESP's 60th anniversary, nine more mobilized the scientific community in 2022:

60anos.fapesp.br/conferencias

DIGITAL CULTURE

November 23, 2022

Researchers affiliated with the University of São Paulo's School of Architecture and Urbanism (FAU-USP) and the Federal University of Rio de Janeiro (UFRJ) examined the impact of digital culture on discussions of contemporary life.

RACISM IN TODAY'S SOCIETY

October 19, 2022

Sociologists from Duke University in the United States and the University of São Paulo's School of Philosophy, Letters and Human Sciences (FFLCH-USP) discussed the chief theoretical and methodological challenges of trying to understand contemporary racism in both countries.

ASTRONOMY AND ASTROPHYSICS

September 21, 2022

Discussions of new instruments that deepen our knowledge of gravitational waves, neutrinos and cosmic rays were led by Brian Schmidt, Vice Chancellor and President of the Australian National University (ANU) and winner of the 2011 Nobel Prize in Physics for the discovery of dark energy; Angela Olinto, Dean of the Physical Sciences Division of the Department of Astronomy and Astrophysics at the University of Chicago in the United States; and Rob Adam, Managing Director of the South African Radio Astronomy Observatory (SARAO), which leads his country's participation in the Square Kilometer Array Observatory (SKAO), the world's largest radio telescope.

POVERTY AND INEQUALITY

August 17, 2022

Scholars met at a conference to investigate recent developments in China and Brazil.

QUANTUM MATERIALS

July 20, 2022

Researchers discussed recent developments in quantum materials, identifying challenges and opportunities in quantum technology.

THREATS TO DEMOCRACY

June 22, 2022

A seminar was held to discuss the available evidence pointing to the possibility of a breakdown in democracy in countries like Brazil.

LAND USE AND FOOD PRODUCTION

April 20, 2022

The eleventh conference focused on matters relating to land use and food production, both of which are crucial to food security and sustainability.

INDUSTRY AND INNOVATION

March 23, 2022

Experts discussed the importance of technological innovation and its key role for FAPESP, as well as many other institutions.

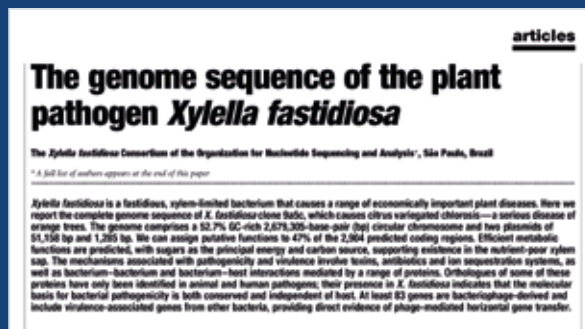
MODERNISM IN THE CONTEXT OF BRAZILIAN STUDIES AND THE CULTURAL AGENDA

February 16, 2022

Researchers analyzed the impact of modernism on Brazil's cultural agenda, the humanities and Brazilian studies.

THE LEGACY OF THE GENOME PROJECT

As part of the commemorations of FAPESP's 60th anniversary, the Genome 20+2 Conference held in November 2022 analyzed the progress achieved in research conducted under the aegis of the program that was launched by FAPESP in 1997 and three years later won its first international recognition with the publication of a cover story in *Nature* on the whole-genome sequencing of *Xylella fastidiosa*, the bacterium that causes citrus variegated chlorosis (CVC), known to Brazilian orange growers as amarelinho because it causes yellowing of leaf tissue due to lack of chlorophyll. The disease was then ravaging orange groves in São Paulo state.



Nature, vol. 406, issue no. 6792 (July 13, 2000)

It was a “bold initiative” that transformed science in São Paulo, said Marco Antonio Zago, President of FAPESP, in his address to the event, held on November 21-22 to celebrate the scientific leap that inaugurated research in genomics and molecular biology in Brazil 22 years ago.



60anos.fapesp.br/
genomeworkshop/en

As José Fernando Perez, FAPESP's Scientific Director when the Genome Project was launched, recalled in his presentation, it was not so much about *Xylella* as about capacity building. It laid the physical and human foundations for similar projects to be undertaken once this first challenge had been surmounted, such as the sequencing of several other organisms that were important to the health of people, animals and plants. This first initiative was followed by the sequencing of sugarcane, of *Xanthomonas citri* (the bacterium that causes citrus canker), and of genes expressed in human tumors, among others.

Twenty-two years later, the legacy of the FAPESP Genome Project can be seen in the progress of personalized medicine, gene therapy, vaccine development, and research on the phylogenetic evolution of biodiversity, to take just a few examples.

The knowledge acquired at that time, Zago stressed, proved essential during the COVID-19 pandemic, enabling Brazilian scientists to sequence SARS-CoV-2 in 48 hours, while other countries took two weeks on average.

The first session was on pathogen genomics and was chaired by Marie-Anne Van Sluys, a professor at the University of São Paulo (USP) and a member of FAPESP's Adjunct Panel on Special Programs and Research Collaboration. The other speakers besides Perez were Alessandra Alves de Souza (IAC), Jorge Elias Kalil Filho (USP), João Marcelo Pereira Alves (USP), and Anna Childers (USDA).

The second session dealt with agri-environmental genomics and was chaired by Luis Eduardo Aranha Camargo, a professor at USP. The speakers included Paulo Arruda, a professor at the State University of Campinas (UNICAMP) and head of the Genomics for Climate Change Research Center (GCCRC), an Engineering Research Center (ERC) supported by FAPESP and Brazilian Agricultural Research Corporation (EMBRAPA).

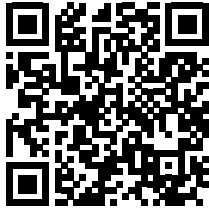
In parallel with the conference, an exhibition showcased memories of the FAPESP Genome Project, listing the laboratories and researchers involved in the sequencing of *Xylella* and displaying photographs of tributes being paid to the scientists by Mario Covas, then governor of São Paulo, and former President Fernando Henrique Cardoso, with items on research projects grounded in the knowledge acquired and applied in later sequencing initiatives.



Researcher examines orange leaves contaminated by *Xanthomonas citri*, the bacterium that causes citrus canker, in the laboratory at the Sylvio Moreira Citrus Center in Cordeirópolis, part of the Campinas Institute of Agronomy (IAC).

Photo: Léo Ramos Chaves

Recollections of key participants in the FAPESP Genome Project



60anos.fapesp.br/
genomeworkshop/en/videos



- **José Fernando Perez**, then FAPESP's Scientific Director
- Biologist **Fernando Reinach**, founder of venture capital firm Pitanga and one of the scientists who envisioned the Genome Project when he was a member of FAPESP's Area Panel for Biology.
- British bioscientist **Andrew Simpson** headed the Genetics Laboratory at the Ludwig Institute for Cancer Research in São Paulo when he was invited to coordinate the gene sequencing of *Xylella fastidiosa*, the first step in the FAPESP Genome Project, in 1997.
- **Chi Van Dang**, Scientific Director of the Ludwig Institute for Cancer Research in New York, speaks about his optimistic view of the future of oncology, with advances in treatment and the development of tools to identify tumors at a very early stage.
- Biologist **Paulo Arruda**, a specialist in plant genetics, was responsible at the time for one of the foremost laboratories in terms of training researchers and is now the principal investigator (PI) for the Genomics for Climate Change Research Center (GCCRC), funded by FAPESP and EMBRAPA at the State University of Campinas (UNICAMP).
- In 2000, **Marco Antonio Zago**, President of FAPESP, was the head of the Molecular Hematology Laboratory at the University of São Paulo's Ribeirão Preto Medical School (FMRP-USP), one of the 33 laboratories in the network that sequenced the *Xylella fastidiosa* genome.
- **João Setúbal**, bioinformatics coordinator for the project, explains that researchers posted sequencing data to a system run by the Organization for Nucleotide Sequencing and Analysis (ONSA) network.



José Fernando Perez
Photo: Eduardo Cesar



Fernando Reinach
Photo: Eduardo Cesar



Andrew Simpson
Photo: Miguel Boyayan

- **Emmanuel Dias-Neto**, of A.C.Camargo Cancer Center's International Research Center (CIPE), talks about the relevance of the FAPESP Genome Project to his career.
- **Antonio Juliano Ayres**, general manager of Fundecitrus, the citrus protection fund, talks about phytosanitary alerts and the falling incidence of citrus variegated chlorosis (CVC), which attacks orange trees all over the world.

Researchers who participated in the *Xylella fastidiosa* sequencing and cancer genome projects describe the impact of these initiatives on their academic trajectories:

- **Elizabeth Leme Martins** was a researcher at Butantan Institute in 1997, when her laboratory was invited to join the ONSA network and participate in the first stage of the FAPESP Genome Project: the whole-genome sequencing of the bacterium *Xylella fastidiosa*, which causes a serious citrus disease.
- **Anamaria Camargo**, head of research at Hospital Sírio-Libanês, was a postdoctoral fellow under Andrew Simpson's supervision at the Ludwig Institute for Cancer Research in 1997, and talks about the importance of the two projects to her genomics training.
- **Mariana Cabral de Oliveira**, a professor at the University of São Paulo's Institute of Biosciences (IB-USP), uses genomics tools to research marine diversity.
- **João Paulo Kitajima**, co-founder and director of Mendelics Análise Genômica, was a postdoctoral fellow at the Bioinformatics Laboratory of the State University of Campinas (UNICAMP) and recalls how the project "opened the doors to entrepreneurship" for him.
- **Dirce Maria Carraro** took part in several genome sequencing projects while she was a postdoctoral fellow. The experience enabled her to join the team at the Ludwig Institute of Cancer Research. She later became the leader of a cancer research project at A.C.Camargo Cancer Center.



Ana Cláudia Rasera da Silva, Marilis do Valle Marques, Elizabeth Angélica Leme Martins, Anamaria Aranha Camargo, Mariana Cabral de Oliveira, Claudia Monteiro Vitorello and Marie-Anne Van Sluys, winners of the CLAUDIA 2000 Prize for the whole-genome sequencing of *Xylella fastidiosa*.

Photo: Egberto Nogueira, CLAUDIA magazine

