

Brazilian Leadership in Open Research

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ORCID

Over the last years, Brazilian research has become more and more visible internationally. The number of articles published has increased substantially, with an average growth of 10.7 % per year, a rate five times higher than the world average, moving the country into the top 15 in terms of research productivity¹. Much of this growth can be traced to progressive government policies and programs that supported both research projects and the information infrastructure needed to support collaboration and dissemination of results.

Among the organizations responsible for supporting the growth of Brazilian research and its international visibility are CNPq, CAPES, SciELO and RNP.

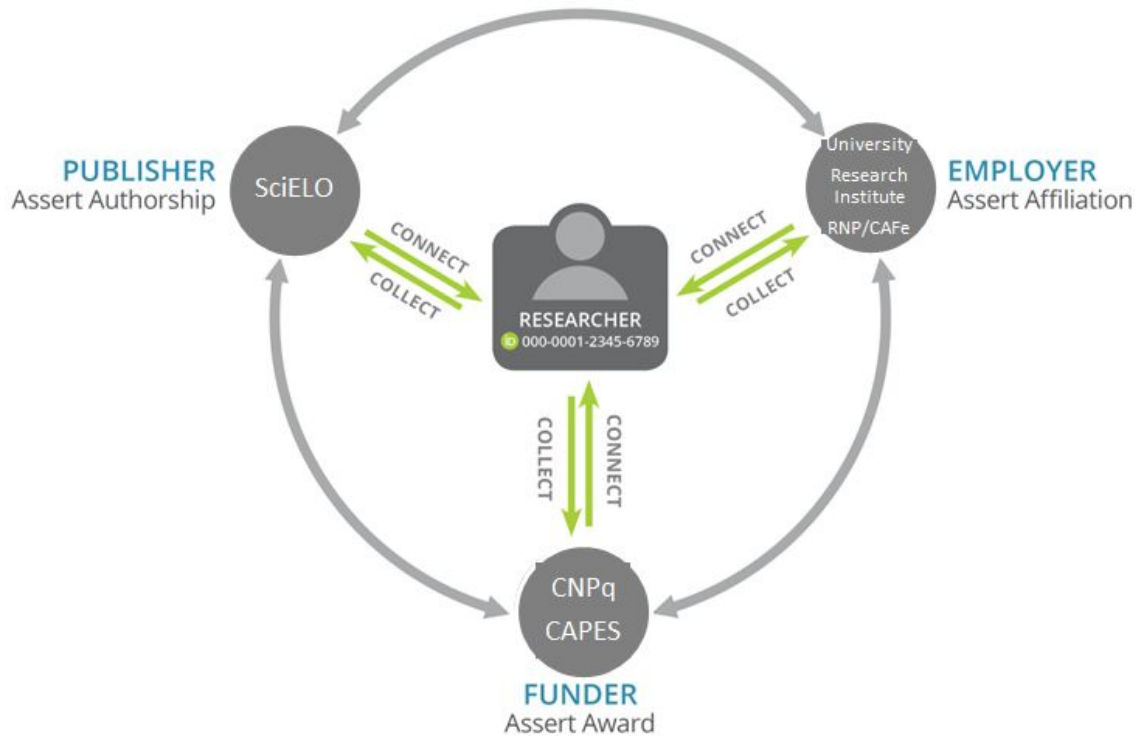
- **SciELO and Capes Portal de Periódicos Platforms** - For the last 15 years, the Brazilian research community has been provided access to the best scientific information available in the world, in the most wide and open way. In a country with continental dimensions and big inequalities, this wide access to full-text is key to the production of high quality research.
- **CNPq Lattes Platform** - This was the first national researcher profile system, upon which many others have been modelled, internationally. Having a profile in this platform is mandatory for each researcher applying for a CNPq grant, making this database extremely complete and an effective collaboration and evaluation tool.
- **Capes Sucupira Platform** - The Post-Graduation Programs play a central role in the production of high quality research in Brazil. Capes evaluates these Programs every three years through a very complete system of evaluation, including the Sucupira tool, which receives input from the individual researcher's Lattes curriculums.
- **Capes Qualis Evaluation and SciELO Guidelines** - These two initiatives aim at improving the quality of Brazilian research journals, through guiding Editors in implementing best practices and professionalizing processes, according to international standards and ethics in scientific publishing. They also support the evaluation and indexing of research journals.
- **Capes Science Without Borders Program** - Researchers mobility and collaboration is a key factor of the research produced in every country. This Capes Program made possible that Brazilian science was more visible than ever in the last years. Not only Brazilian scientists travelled to other countries because of this Program, but Brazil became more attractive for foreign researchers, and the results of these collaborations are to be seen in the next years' co-authored publications
- **RNP CAFe** - Researchers are educated and trained at academic institutions. CAFe provides a national identity management system for education and research institutions, so that researchers can access the services of their institution and other participating organizations from wherever they are. Distance learning services, access to scientific publications and collaborative activities are among the biggest beneficiaries of the infrastructure offered by federations.

¹ Almeida E, Chaves E, Guimarães JA. Brazil's growing production of scientific articles: how are we doing with review articles and other qualitative indicators? *Scientometrics*. 2013; 97(2):287–315.

Underlying these policies and programs is a technology infrastructure that supports sharing of information between systems. CAFe is one very clear example of such infrastructure, allowing for users to access information across multiple university and research institute sites with a single username and password. Another example is the use of Digital Object Identifiers (DOIs) in the SciELO publishing platform, which allows easy resolution of the journal article while also supporting persistence of the document. More recently, Brazilian researchers have also been adopting use of ORCID, an open identifier for individuals involved in research. Over 80,000 Brazilian researchers have registered for an ORCID, and the country enjoys the sixth highest usage of the ORCID Registry, globally.

Those same organizations that have supported the emergence of Brazilian research on the global stage, again have the opportunity to play a leadership role in open research, this time by leveraging ORCID iDs across national research information infrastructures. It is now possible for researchers to pair their ORCID iD with their CAFe login credentials; and UNICAMP, USP, and UNESP have started projects to integrate ORCID iDs into university directory systems - steps toward enabling universities to share employment affiliation information that researchers can use when submitting a paper or grant. SciELO have started to collect ORCID iDs for authors using their publishing platform, and four Brazilian journals are requiring ORCID iDs from authors submitting papers through SciELO. The national funder, [CNPq](#), is assessing how to use ORCID in its [Lattes](#) CV system. And, CAPES is considering how to use ORCID, including [use in its international programs](#).

Integrating ORCID into key Brazilian publishing, funding, and employer systems, will support national-scale open research objectives. A national approach to ORCID provides another opportunity for Brazil to lead on the world stage, extending national ORCID adoption across sectors of the research community from one that has to date largely involved research universities. A coordinated cross-sector approach would enable interoperability and data sharing across research information systems, improving discoverability on a national scale, improving data quality and reducing the burden on researchers and administrators alike for managing CVs and reporting research outcomes.



In this scenario, Brazilian researchers will be able to share their iD with their home organization (via CAFe), and receive in return an electronic statement of affiliation with that organization (via the organization directory), along with the organization name and identifier (OID). Researchers may use that information (person/ORCID + affiliation/OID) when submitting a paper (via SciELO or many other publishing platforms); and when the paper is published receive an electronic statement of authorship (person/ORCID + paper/DOI + publisher/OID), which can be easily shared with the researcher's home institution or funder via an API. Similarly, the researcher can share their electronic information when they submit a grant (via CNPq/CAPES), and when the grant is awarded receive an electronic statement of award (person/ORCID + grant/DOI + funder/OID) Because the connections are made as a researcher interacts with trusted research information systems, it both imbues verification into the connection and reduces the work needed for researchers to manage their information. All the while, researchers control when they use their ORCID iD and with whom they share their information.

We look forward to working with the Brazilian research community to help make this vision a reality. Some organizations - including UNICAMP, UNESP, USP, and SciELO have already begun. Part of this effort will be to ensure community needs are understood, and that ORCID services are used [following best practices](#):

- **Collecting** validated ORCID iDs for your employees, members, affiliates, and students to ensure associations with the preferred name (and organization identifier) of your institution and to enable cross-system tracking and analysis
- **Displaying** iDs to signal to your employees and affiliates that your information systems are plumbed to support their use of ORCID

- **Connecting** information about their affiliation – and, if applicable, contributions – to your researchers' ORCID records, making it easy for them to share this trusted information with other systems and profiles they use
- **Synchronizing** information between ORCID records and your systems to improve reporting accuracy and speed

For more information about ORCID:

General information: <https://orcid.org/content/about-orcid>

Registration: <https://orcid.org/signin>

User help pages: <https://orcid.org/help>

Membership list: <https://orcid.org/about/membership>

Collect and Connect program: <https://members.orcid.org>

Technical documentation: <https://members.orcid.org/api>

Resources: <https://members.orcid.org/resources>

Support desk: <https://members.orcid.org/contact>

API users listserv: <https://members.orcid.org/resources>