

Profile of the early and mid-career Brazilian scientist reflects the social configuration and research incentives of the country

Alexandre Briazo Gomes Filho / 10 de outubro de 2024 / In English



Science | An unprecedented report highlights challenges in establishing a research career in Brazil, such as lack of funding and opportunities

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*Photo: Gustavo Popino/Embrapa

In mid-2020, some members of the Brazilian Academy of Sciences (ABC) initiated a project that began at the entity's workshop: outlining the profile of early and mid-career Brazilian scientists based on quantitative data. To better understand who these researchers are and to identify the main challenges for the establishment of a scientific career in Brazil, the project's over 80 professionals developed a survey divided into seven axes: funding, productivity grants, scientific disclosure, scientific diaspora, internationalization, scientific leadership, and diversity, and inclusion.

Following the project's exclusion criteria, just a little more than 4,000 out of the 5,500 answers given were tabulated. The results indicate that a large portion of early and mid-career scientists struggle to obtain research funding. Additionally, the lack of opportunities for researchers is one of the reasons for the so-called "scientific diaspora" (Brazilian scientists moving abroad in search of better working conditions in academia or science-oriented industries). The final report was issued in September this year during an ABC meeting in São Paulo and is available in full on the Academy's website.

Curiosity sustained by funding

One of the project's steering committee members, Professor Ana Chies from the Institute of Physics at UFRGS, has always been inquisitive about what lies beyond the visible sky. Constantly driven by curiosity, she has pursued a career in Physics. From there on, she moved into Astrophysics, and an academic career became inevitable. Today, she primarily studies extragalactic globular clusters in various types of galaxies and environments. "I didn't really think about the consequences, I just kept going," she comments, acknowledging the reality that being a researcher in Brazil often requires performing 'magic' with a limited income — whether such income happens to be available.

"To conduct quality research, it's essential to have funding for the maintenance and updating of research laboratories, fieldwork, and the promotion of national and international collaborations."
— Ana Chies

Regarding this aspect, 74% of survey respondents report difficulties in obtaining research funding, and only 20% seek funding through foreign grants. As for competitive productivity grants, which are awarded to researchers whose work stands out in their respective fields, only 10% claim access.

Scientific disclosure was addressed in the questionnaire linked to the researcher's interest and involvement in dissemination activities. In terms of social media use among scientists, WhatsApp is the most used platform for dissemination purposes, followed by Instagram, and then Twitter/X — contrary to what was previously thought about academia preferences, which was not the primary platform for sharing scientific knowledge among peers. More than half of the respondents tend to disseminate their research on social media, while about 20% use it solely for leisure. The remainder stated they don't have time for such activities.

Research without borders

Ana traveled the world as a researcher and, even after joining the ABC, the globe's borders were akin to neighborhood boundaries in Porto Alegre to her. She was in China as a visiting professor when the survey started circulating. Working daily with people from different parts of the world, the astrophysicist seizes every opportunity to share her network with students, building bridges that connect different worlds.

The internationalization of Brazilian research is one of the study's focuses. "The majority of research projects are not confined to purely national contexts," says the professor. 80% of Brazil's collaborations are with the USA, the UK, France, Germany, and Spain. There are very few collaborations with Asian, African, and Latin American countries. Less than 10% of respondents report participating in conversations in a foreign language daily, while over 40% say they participate a few times a year. More than 20% never engage in conversations in another language.

Given that access to productivity grants and other opportunities is a privilege in the research world, becoming a scientific leader is a means to secure these privileges. But what is needed to become a scientific leader? "Publishing in high-impact journals, having the ability to propose highly original and impactful themes, as well as having networks and participating in major international projects and consortia," answers Professor Ana. 73% of respondents believe that early and mid-career scientists are not recognized as leaders in their fields. The lack of calls for proposals and funding opportunities are directly linked to this perception. In addition to age implications, gender and racial circumstances are also significant in the report.

Inequalities and potential solutions

According to Ana, the report has a sociodemographic profile comparable to the last CNPq census conducted in 2016, meaning there is a predominance of whites and a low proportion of blacks and browns. Among PQ2 level respondents (a CNPq research productivity category with a grant duration of thirty-six months), approximately 12% are white men, 10.6% are black men, 5.5% are white women, and 5.4% are black women.

This result directly reflects Brazil's social structure, which is also reflected in other observations beyond those made in the study. The internal structure of ABC itself, for example, is comparable to what was analyzed in gender and race cuts. According to the professor, this scenario could be changed if the rules by which people join the organization gets altered. "People could apply, rather than being appointed, perhaps," she suggests. Regarding inequalities among Brazilian researchers, she believes public incentives are the way forward.

With the results obtained, the hope is that the research report can assist in the formulation of public policies, such as research calls for scientists at different stages of their careers. The project's steering committee's idea is to conduct the survey periodically, perhaps every five years. In addition to Ana, the project's steering committee included Raquel Minardi from the Federal University of Minas Gerais, Jaqueline Mesquita from the University of Brasília, and Alessandro Freire from the Brazilian Institute of Teaching, Development, and Research (IDP).

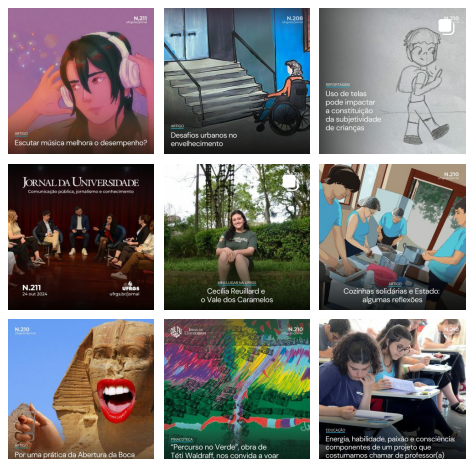
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