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FERNANDA RENATA OLIVEIRA MENDES

ANÁLISE DE PARÂMETROS DE CONTRATAÇÃO DE DOCENTES NOS
DEPARTAMENTOS DE QUÍMICA DAS UNIVERSIDADES FEDERAIS
BRASILEIRAS

UBERABA/MG

2024

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Trabalho de Conclusão de Curso apresentado ao Programa de Mestrado Profissional em Inovações e Tecnologias, área de Inovação no Serviço Público, da Universidade Federal do Triângulo Mineiro, como requisito parcial para obtenção do título de Mestre.

Orientador: Prof. Dr. Geoffroy Roger Pointer
Malpass

Coorientadora: Profa. Dra. Ana Claudia
Granato Malpass

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Dedico esse trabalho às minhas duas filhas Manuella e Marina.
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RESUMO

Este estudo analisa os padrões de contratação de docentes dos Departamentos de Química das Universidades Federais Brasileiras, com foco na retenção regional e nas tendências de mobilidade acadêmica. Utilizando dados da Plataforma Lattes e de fontes institucionais, foram analisados 299 docentes permanentes contratados entre 2000 e 2020 em oito universidades federais com programas de doutorado estabelecidos. A pesquisa explora as correlações entre as instituições onde os docentes concluíram seus estudos de doutorado e suas afiliações profissionais atuais, lançando luz sobre os padrões de mobilidade acadêmica, lealdade institucional e retenção geográfica. Os resultados revelam tendências regionais significativas, com universidades como a Universidade Federal de Minas Gerais (UFMG) e a Universidade Federal do Rio de Janeiro (UFRJ) retraindo uma parte substancial de seus egressos como docentes. Além disso, a análise destaca uma tendência crescente na mobilidade internacional, com um número notável de docentes obtendo seus doutorados no exterior, contribuindo para a internacionalização do ensino superior brasileiro. Este estudo oferece *insights* sobre as práticas de contratação de docentes e suas implicações para o desenvolvimento acadêmico, sugerindo que, embora a retenção local seja forte, o ingresso de docentes formados internacionalmente enriquece a diversidade e a colaboração acadêmica. Os resultados fornecem uma estrutura para entender as dinâmicas de recrutamento de docentes e seu impacto mais amplo nas redes acadêmicas regionais e internacionais.

Palavras-chave: distribuição de docentes; mobilidade acadêmica; ensino superior; redes regionais.

ABSTRACT

This study analyzes the hiring patterns of faculty members in Chemistry Departments at Brazilian Federal Universities, focusing on regional retention and academic mobility trends. Using data from the Lattes Platform and institutional sources, 299 permanent faculty members hired between 2000 and 2020 at eight federal universities with established doctoral programs were analyzed. The research explores correlations between the institutions where faculty completed their doctoral studies and their current professional affiliations, shedding light on patterns of academic mobility, institutional loyalty, and geographical retention. The results reveal significant regional trends, with universities such as Universidade Federal de Minas Gerais (UFMG) and Universidade Federal do Rio de Janeiro (UFRJ) retaining a substantial portion of their graduates as faculty members. Furthermore, the analysis underscores a rising trend in international mobility, with a notable number of faculty members obtaining their doctoral degrees abroad, contributing to the internationalization of Brazilian higher education. This study offers insights into faculty hiring practices and their implications for academic development, suggesting that while local retention is strong, the influx of internationally trained faculty enhances diversity and academic collaboration. The findings provide a framework for understanding faculty recruitment dynamics and their broader impact on regional and international academic networks.

Keywords: faculty distribution; academic mobility; higher education; regional networks.

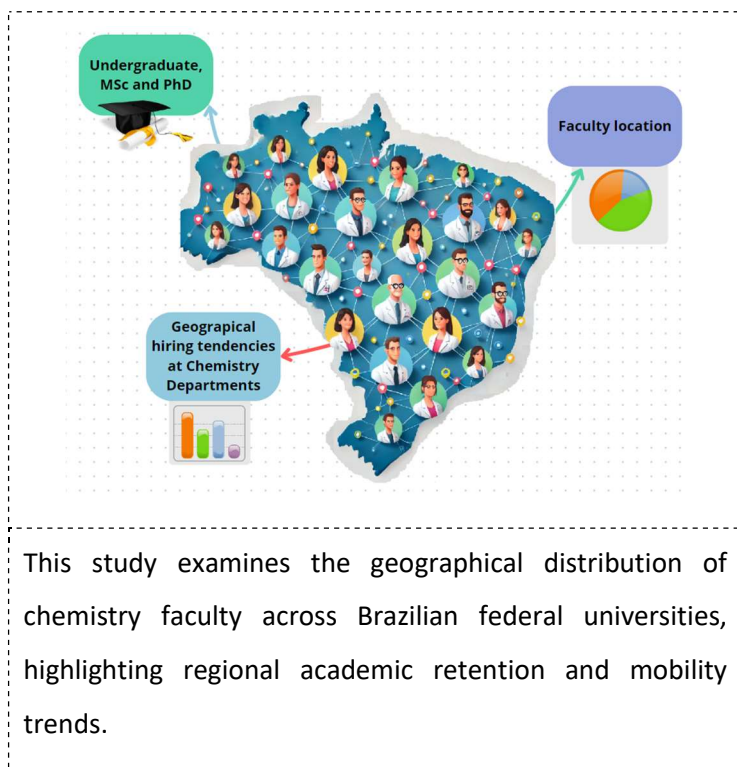
Este Trabalho de Conclusão de Curso, apresentado ao Programa de Mestrado Profissional em Inovações e Tecnologias, foi elaborado na forma de artigo de acordo com o que prevê a Portaria Normativa nº17 de 28/12/2009 do MEC que dispõe sobre as normas e formatos dos Trabalhos de Conclusão de Curso de Mestrados Profissionais.

O referido trabalho encontra-se integralmente no apêndice desta dissertação. O artigo foi submetido ao periódico *Revista Virtual de Química* no dia 02 de outubro de 2024. O texto foi redigido conforme template da revista, utilizando a fonte Calibri 11.

Consta também no apêndice resumo gráfico, exigência do periódico.

APÊNDICE

Resumo Gráfico (RG)



Analysis of Faculty Hiring Parameters in Chemistry Departments of Brazilian Federal Universities.

Análise de Parâmetros de Contratação de Docentes nos Departamentos de Química das Universidades Federais Brasileiras.

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Abstract

This study analyzes the hiring patterns of faculty members in Chemistry Departments at Brazilian Federal Universities, focusing on regional retention and academic mobility trends. Using data from the Lattes Platform and institutional sources, 299 permanent faculty members hired between 2000 and 2020 at eight federal universities with established doctoral programs were analyzed. The research explores correlations between the institutions where faculty completed their doctoral studies and their current professional affiliations, shedding light on patterns of academic mobility, institutional loyalty, and geographical retention. The results reveal significant regional trends, with universities such as Universidade Federal de Minas Gerais (UFMG) and Universidade Federal do Rio de Janeiro (UFRJ) retaining a substantial portion of their graduates as faculty members. Furthermore, the analysis underscores a rising trend in international mobility, with a notable number of faculty members obtaining their doctoral degrees abroad, contributing to the internationalization of Brazilian higher education. This study offers insights into faculty hiring practices and their implications for academic development, suggesting that while local retention is strong, the influx of internationally trained faculty enhances diversity and academic collaboration. The findings provide a framework for understanding faculty recruitment dynamics and their broader impact on regional and international academic networks.

Keywords: faculty distribution; academic mobility; higher education; regional networks.

1. Introduction

Faculty hiring in Brazilian federal universities is governed by the Federal Constitution,¹ which mandates that faculty be selected through public entrance exams (known as *concursos*). *Concursos* require competitive public entrance exams (including tests and Curriculum Vitae (CV) analysis) aiming to ensure meritocracy and academic quality. The Brazilian Federal Constitution grants universities a certain degree of autonomy and discretion in this organization, allowing each institution to arrange its processes according to its internal regulations. Aspects of this administrative discretion include choosing the requirements for applying for specific positions, assigning different weights to various parts of the exam, and selecting themes for candidate evaluation.

Siqueira et al.² analyzed the norms for effective faculty competitions expressed in the internal regulations of Brazilian Federal Universities. The research indicated that all the universities examined use the following tests for hiring faculty: written test, teaching performance test and CV analysis. In general, the written test assesses the candidates' specific knowledge, and the teaching performance test evaluates their pedagogical skills. Regarding the CV analysis, academic productivity is analyzed with an emphasis on research history, outreach activities and teaching practice. Additionally, some universities also require the presentation of a career achievement portfolio or a research project.

The stages of faculty competitions are carried out in front of an examining board. The requirements for the composition of board members vary among universities, and criteria are generally established to reduce personal favoritism in the evaluations. Siqueira et al. revealed that the examining boards are mostly composed of three faculty members, the majority of whom are professors from the institution organizing the competition, but usually with at least one external member.

Given the importance of the selection process and the relevance of academic qualifications, it is interesting to investigate how these qualifications correlate with the academic progression of faculty members. The academic career path of university professors generally includes undergraduate, graduate (MSc and PhD), and often post-doctoral studies. According to data from INEP,³ Brazil currently has 358,825 active faculty members in higher education. Of this total, 51% are affiliated with private higher education institutions (IES), and 49% with public ones. The proportion of faculty with doctoral degrees has grown over the years in both the public and private sectors, with doctoral degrees being more common for faculty at public universities, while the holding of a master's degree is more prevalent in the private sector.

Brazilian legislation does not require faculty intending to work in higher education to have specific pedagogical training, as is the case at other educational levels. Analyzing Chemistry faculty in

higher education institutions, Quadros et al.⁴ pointed out that the majority are graduates of postgraduate programs in Chemistry, selected for their specialization in a specific area of knowledge in which they will act as educators and researchers. Although teaching activities are a reality for most graduates from *Stricto Sensu** programs, few pedagogical training actions are carried out in this context. Therefore, these programs produce professionals that are highly qualified for research but not necessarily for teaching. According to the latest evaluation by CAPES – Four-Year Evaluation 2021† – there are currently 75 *Stricto Sensu* graduate programs in chemistry in Brazil, including MSc. and PhD programs. There are 48 academic combined MSc./PhD. programs, 20 academic MSc. programs, 5 professional MSc. programs, and 2 PhD. programs.

Research by Hunter et al.⁵ explored the hiring and retention dynamics of university faculty across the United States. The study revealed that a select few universities train the majority of the nation's faculty. It was observed that professors who earned their doctorates from prestigious universities are likely to be employed by institutions of similar repute. In contrast, those graduating from less prestigious universities typically find positions at similarly ranked institutions. Clauzet et al.⁶ analyzed faculty hiring networks, revealing a steep hierarchy where doctoral prestige strongly influences career outcomes.

In the Brazilian context, examining faculty hiring practices at federal universities is pivotal as it offers insights into prevailing employment trends that can inform strategies to enhance the training of future professionals and address labor market needs, thereby improving the alignment between academic training and societal demands.

While the existing literature provides comprehensive insights into the structures and outcomes of faculty hiring processes at Brazilian federal universities, there remains a notable gap in understanding how these processes impact the long-term career trajectories and academic production of faculty members. Studies such as those by Siqueira et al.² and Quadros et al.⁴ primarily focus on the procedural aspects of faculty hiring and the immediate qualifications of candidates, rather than the longterm effectiveness of these hiring practices for academic excellence and career advancement. Furthermore, while international comparisons, such as those by Hunter et al.,⁵ suggest the influence of institutional prestige on career outcomes, similar in-depth analyses are scarce in the Brazilian context. Consequently, this study aims to analyze faculty profiles, hiring patterns, regional retention patterns, and the internationalization of faculty in the chemistry departments of Brazilian Federal

* *Stricto sensu* refers to specialized postgraduate education, including master's and doctoral programs, focused on academic and scientific training in Brazilian higher education. This contrasts with *lato sensu* studies like specializations and MBAs, which are broader and more professionally oriented.

† Brasil. Ministério da Educação. Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES).

Resultado da Avaliação Quadrienal 2017-2020 2022 [\[Link\]](#)

Universities, exploring potential correlations between the institutions where faculty completed their doctoral degrees and their current professional affiliations. This analysis is intended to discern patterns that might influence hiring decisions and professional trajectories within the academic landscape.

2. Methodology

2.1 Study Design and Participants

This is a descriptive study with a quantitative approach. The participants are permanent faculty members from the Chemistry Departments of Brazilian Federal Public Universities. This study was approved by the Research Ethics Committee of the Universidade Federal do Triângulo Mineiro (CAAE: 74361823.6.0000.5154, opinion number: 6.419.368).[‡]

2.2 Inclusion and Exclusion Criteria

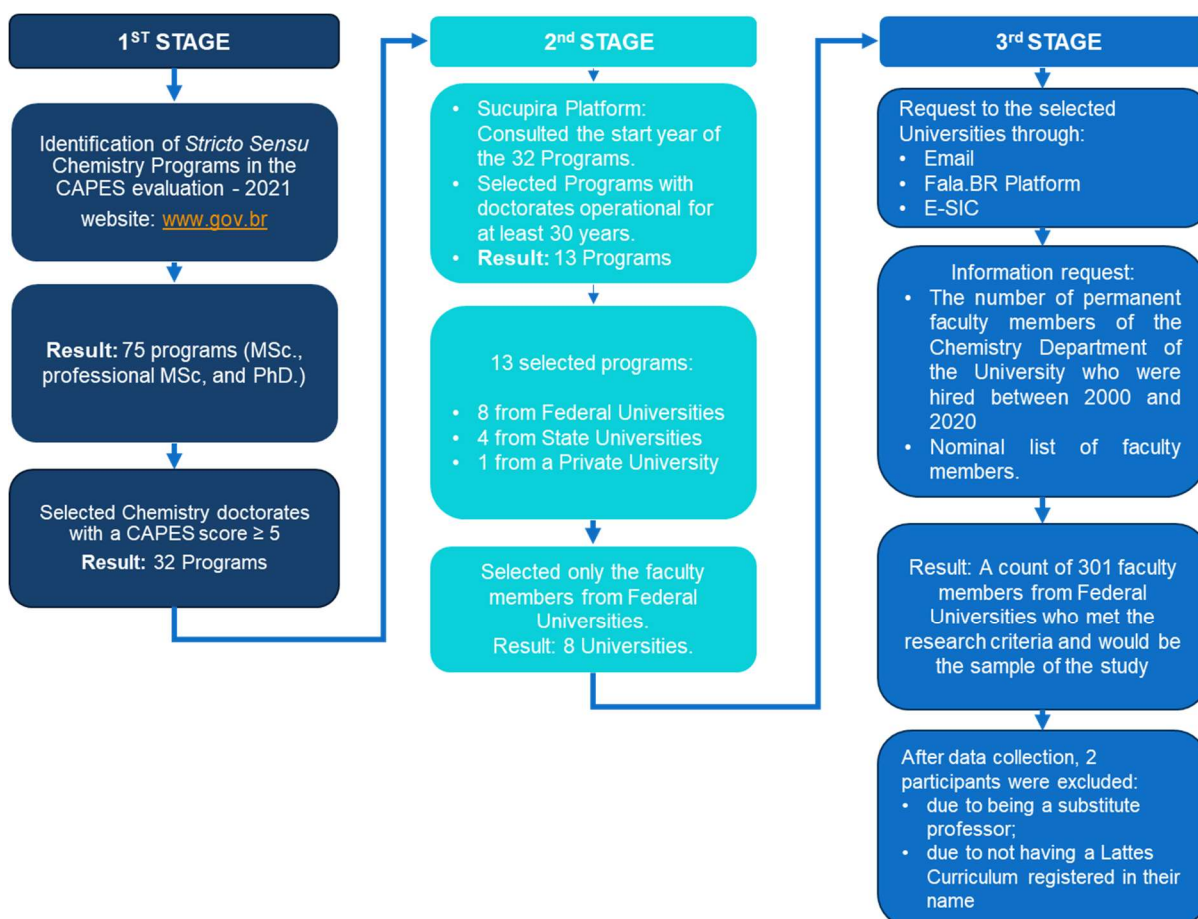


Figure 1: Flowchart of data acquisition, inclusion and exclusion criteria for the study

[‡] UNIVERSIDADE FEDERAL DO TRIÂNGULO MINEIRO. **Comitê de Ética em Pesquisa.** Uberaba: UFTM, 2023. Disponível: <https://www.uftm.edu.br/comitesecomissoes/cep>.

Figure 1 presents the sequence of data acquisition used in the current study. The study focused on permanent faculty members hired between 2000 and 2020 from chemistry departments at federal public universities with doctoral programs in operation for at least 30 years and a CAPES Quadriennial Evaluation[§] score of 5 or higher in 2021. Faculty from state and private universities, as well as those hired outside the specified period, were excluded. All non-permanent faculty were excluded from the sample.

To identify eligible programs, data from the 2021 CAPES Quadriennial Evaluation were accessed via the www.gov.br website, selecting the "Chemistry" area. Out of 75 programs (including master's, professional master's, and doctoral), a filter was applied to include only programs offering doctoral degrees in chemistry with a score of 5 or higher, reducing the pool to 32. Further selection based on program operation for at least 30 years reduced this to 13 programs, of which 8 belonged to federal universities, forming the study's focus.

Information on faculty hiring was requested from these universities using e-mail and Fala.BR and E-SIC platforms, yielding a final sample of 301 eligible faculty members. After excluding two participants (one substitute and one without a Lattes Curriculum), the final sample consisted of 299 faculty members from eight universities: Universidade Federal do Ceará (UFC), Universidade Federal de Minas Gerais (UFMG), Universidade Federal de Pernambuco (UFPE), Universidade Federal do Rio de Janeiro (UFRJ), Universidade Federal de Santa Catarina (UFSC), Universidade Federal de São Carlos (UFSCar), Universidade Federal de Santa Maria (UFSM) e Universidade de Brasília (UNB).

2.3 Data Collection

Data were collected from the Lattes Platform^{**}, including:

- Academic background (undergraduate, master's, doctorate, year of completion);
- Professional data (current university, year of hiring);

Collected data were organized in Excel and imported into SPSS ((Statistical Package for the Social Science) for Windows (version 22) for analysis.

2.4 Data treatment

[§] Postgraduate programs are assessed every 4 years

^{**} The Platform Lattes is a platform (<https://lattes.cnpq.br/>) used in Brazil for documenting and managing the academic and professional qualifications of researchers, professors, and students. The platform is maintained by the National Council for Scientific and Technological Development (CNPq) of Brazil and is open to the public for consultation

The Python programming language was used to analyze the data, with the help of the Pandas and NumPy libraries. The implemented code was able to read the data contained in a spreadsheet with the extension “.xlsx”, from which it was possible to obtain 4 (four) graphs (Figures 4 – 7).

The first Python generated graph (Figure 4) is a comparative profile of the hiring of professors who completed their undergraduate, master’s and doctoral degrees at the current institution, with the aim of showing the percentage of the categories (undergraduate, master’s and doctoral) at each institution. The second, third and fourth graphs (Figures 5 - 7) present the hiring profile by state in Brazil, in relation to the hiring universities.

3. Results and Discussion

3.1. Initial Data

Upon examining the professional affiliations of the faculty members, it can be observed that there are 299 faculty that meet the selection criteria of the study (Table 1).

Table 1. Distribution of the faculty throughout the universities under study

UNIVERSITY	NUMBER OF FACULTY	PERCENTAGE
Universidade Federal de Minas Gerais (UFMG)	64	21.40
Universidade Federal do Rio de Janeiro (UFRJ)	60	20.10
Universidade de Brasília (UnB)	40	13.40
Universidade Federal de Santa Catarina (UFSC)	34	11.40
Universidade Federal de São Carlos (UFSCar)	28	9.40
Universidade Federal do Ceará (UFC)	27	9.00
Universidade Federal de Santa Maria (UFSM)	26	8.70
Universidade Federal de Pernambuco (UFPE)	20	6.70

Three faculty members (1.0%) lacked detailed undergraduate information, such as the institution attended, course, and graduation date and were excluded from the undergraduate sample.

As demonstrated in Figure 2, of the 296 faculty members, nearly half had obtained a BSc. in Chemistry (145; 49%). Other qualifications were also prevalent, including Industrial Chemistry (43; 14.5%), Chemistry Teaching Degree (26; 8.8%), Pharmacy (17; 5.7%), Chemical Engineering (15; 5.1%), a combined BSc. Chemistry and Teaching degree (12; 4.0%), Chemistry with Technological Applications (10; 3.4%), among others. The predominant undergraduate institutions were the UFMG (31; 10.5%), followed by the UFRJ (29; 9.8%), and the UFSM (28; 9.4%).

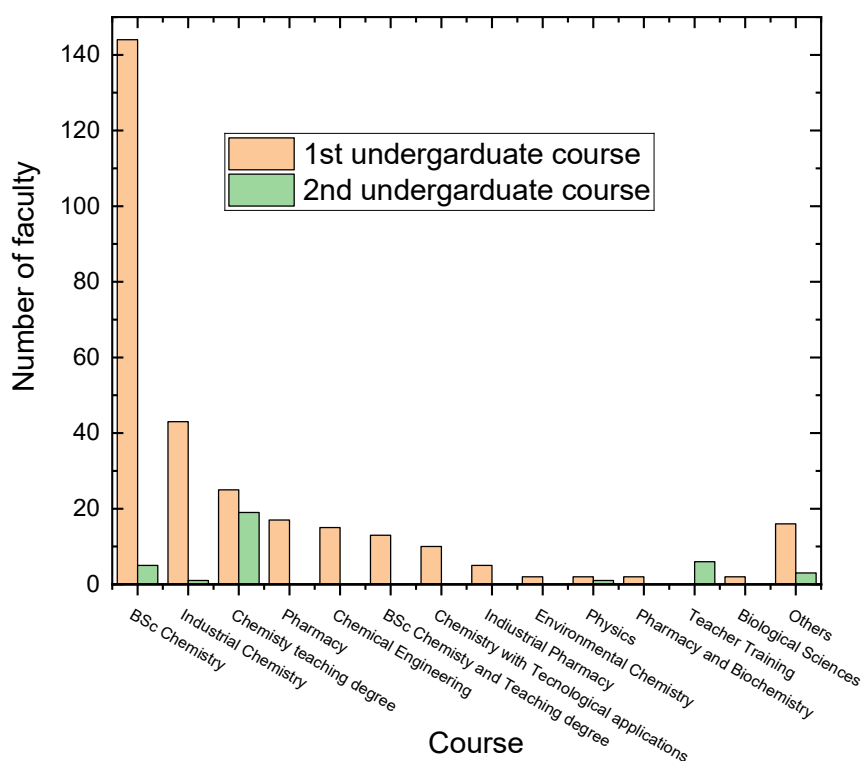


Figure 2. Undergraduate courses of the faculty understudy

Additionally, 36 faculty members held a second degree (Figure 2). The most common was a Chemistry Teaching Degree (19; 52.8%), followed by Teacher Training (06; 16.7%), and BSc. in Chemistry (05; 13.9%), with a few in other fields such as Bromatology, Ecology, Physics, Industrial Chemistry, and Theology. The secondary degrees were primarily obtained from the UFSM (9; 25%), UFRJ (05; 13.9%), and UFSC (04; 11.1%).

3.2 Postgraduate Education

Regarding *Stricto Sensu* graduate programs, 47 faculty members (15.7%) did not list an MSc degree in their curriculum, while 252 (84.3%) had completed their MSc, primarily in Chemistry (168; 66.7%). Other less frequent Msc specializations included Inorganic Chemistry (12; 4.8%), Physical Chemistry (09; 3.6%), and Analytical Chemistry (6; 2.4%). The main institutions for these programs were the UFRJ (33; 13.1%), UFMG, and UFSM (27; 10.7%).

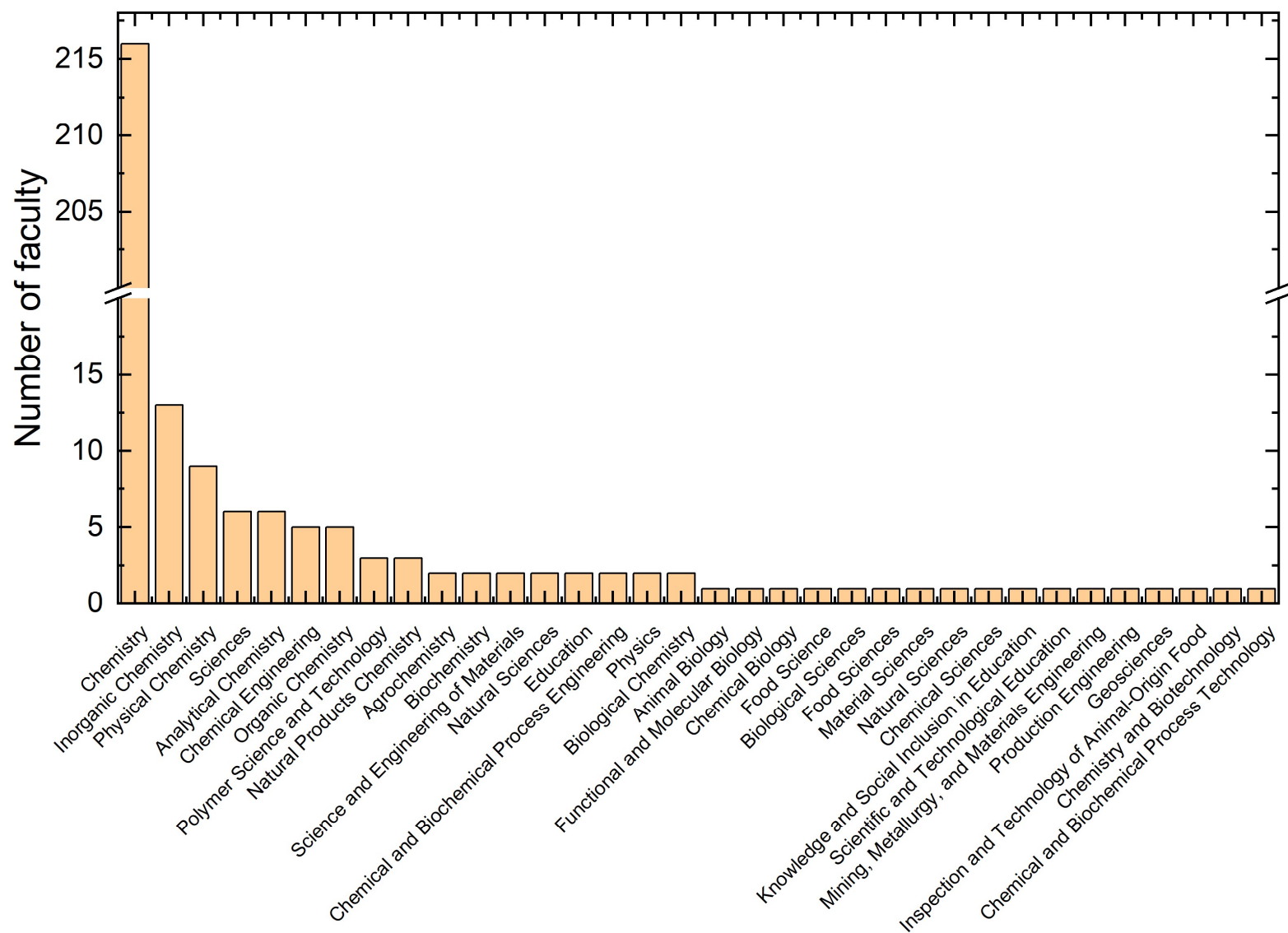


Figure 3. Distribution of PhDs of the 299 faculty understudy

All faculty members (299; 100%) held PhD degrees, with the majority in Chemistry (216; 72.2%). Other PhD fields mirrored those of the MSc. programs, including Inorganic Chemistry (13; 4.3%), Physical Chemistry (09; 3.0%), and Analytical Chemistry and Sciences (06; 2.0%). The most common institutions for PhD studies for the faculty understudy were the Universidade Federal do Rio de Janeiro (47; 15.7%), Universidade Federal de Minas Gerais, and Universidade de São Paulo (32; 10.7%).

3.3 Graduate and postgraduate locations vs professional location

Figure 4 provides a visual representation of faculty retention at various universities, showing how many faculty members completed their undergraduate, MSc, and PhD degrees at the same institution where they are currently employed.

Analyzing the data, it is possible to examine retention rates at undergraduate, master's and doctoral levels. In four institutions (50%), the retention of undergraduate is higher than that found at master's and doctoral level. The universities that stand out in this respect are the Universidade Federal de Minas Gerais (UFMG), with a rate of 21.9%; the Universidade Federal do Ceará (UFC), with 15.6%; the Universidade Federal de São Carlos (UFSCar), with 7%; and the Universidade Federal de Brasília (UNB), with 4.7%. This trend suggests that these universities manage to attract their students from the time they graduate, possibly through attractive programs or career opportunities that encourage them to stay. Although many choose to do their *Stricto Sensu* degree at other institutions, many end up returning to be part of the teaching staff at these universities.

On the other hand, the Universidade Federal de Santa Catarina (UFSC), Pernambuco (UFPE) and Rio de Janeiro (UFRJ) have the lowest undergraduate retention rates. This trend suggests that while universities may be effective in attracting a diverse pool of students for undergraduate studies, many students choose to pursue higher education or career opportunities elsewhere after graduation.

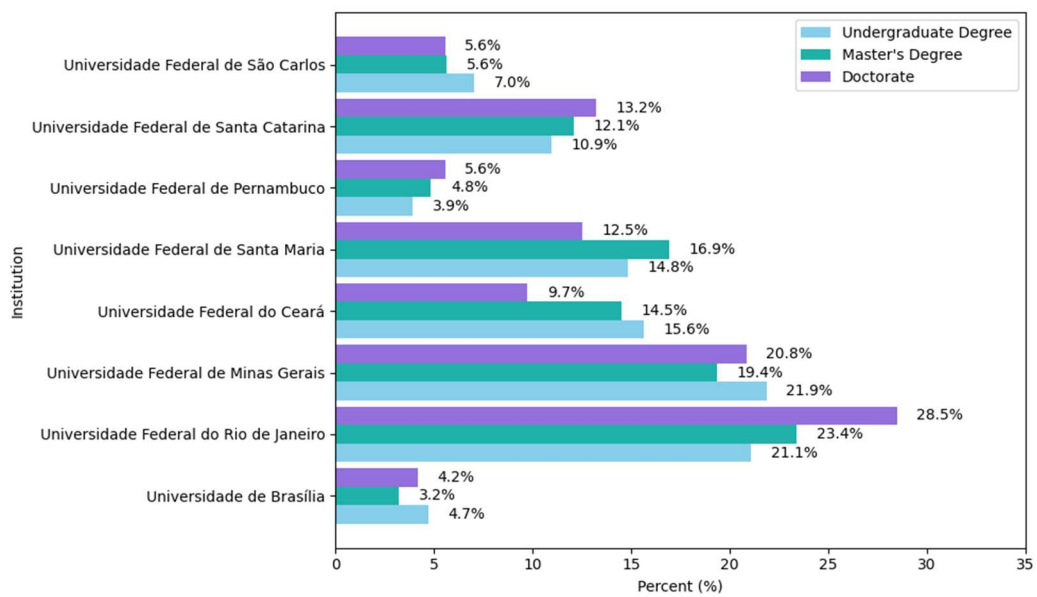


Figure 4. Distribution of faculty members hired at the same institutions where they performed their undergraduate, MSc or PhD programs

When analyzing master's degrees, only one university (12.5%) has a higher retention rate compared to undergraduate and doctoral programs: the Universidade Federal de Santa Maria (UFSM), with 16.9% of its faculty retained locally. This figure may indicate that MSc level students at UFSM are satisfied with their educational experience or consider that the advanced programs meet their academic and professional goals. Figure 4 also highlights other institutions with good master's efficiency, such as the Universidade Federal do Ceará, which presents 14.5%. The Universidade Federal de Santa Catarina, Universidade Federal de São Carlos, Universidade Federal de Pernambuco and Universidade Federal do Rio de Janeiro also have significant retention rates, with 12.1%, 4.8% and 23.4%, respectively, although they still have higher retention rates for doctorates.

Regarding the doctorate, retention rates are the highest compared to the undergraduate and master's levels at three institutions (33.3%). The most notable are UFRJ, with 28.5%; UFSC, with 13.2%; and UFPE, with 5.6%. The high PhD retention suggests that these institutions offer strong academic communities and research opportunities, attracting and retaining PhD candidates as faculty members. This indicates that these universities foster favorable environments for long-term academic involvement and career development. UFMG also stands out, with a retention rate of 20.8% among doctoral students, second only to undergraduate programs. On the other hand, the UFC has the lowest retention rate at doctoral level, at just 9.7%, compared to undergraduate and master's levels.

These retention patterns could have several implications for the universities involved. Firstly, they reflect the degree of institutional loyalty that is nurtured during students' academic journeys. Universities with higher retention rates may be seen as providing supportive environments that facilitate

students' transitions into academic and professional roles within the same institution. Secondly, the data could inform university policies regarding faculty recruitment and development, highlighting the potential to invest in their own graduates as future educators and researchers.

3.4 Geographical Distribution of Faculty Members

3.4.1 Undergraduate studies

Figure 5, provides a detailed view of the geographic distribution and retention of faculty members who completed their undergraduate degrees in the same state where they are currently employed. This analysis highlights regional patterns of faculty retention. The data shows that the UFMG and UFRJ have the largest concentrations of locally retained faculty members in terms of absolute. As depicted in Figure 5, UFMG retains 43 out of 64 faculty members (67.2%) who graduated from within the state of Minas Gerais, while UFRJ retains 42 out of 60 faculty members (70%) who completed their undergraduate degrees in the state of Rio de Janeiro.

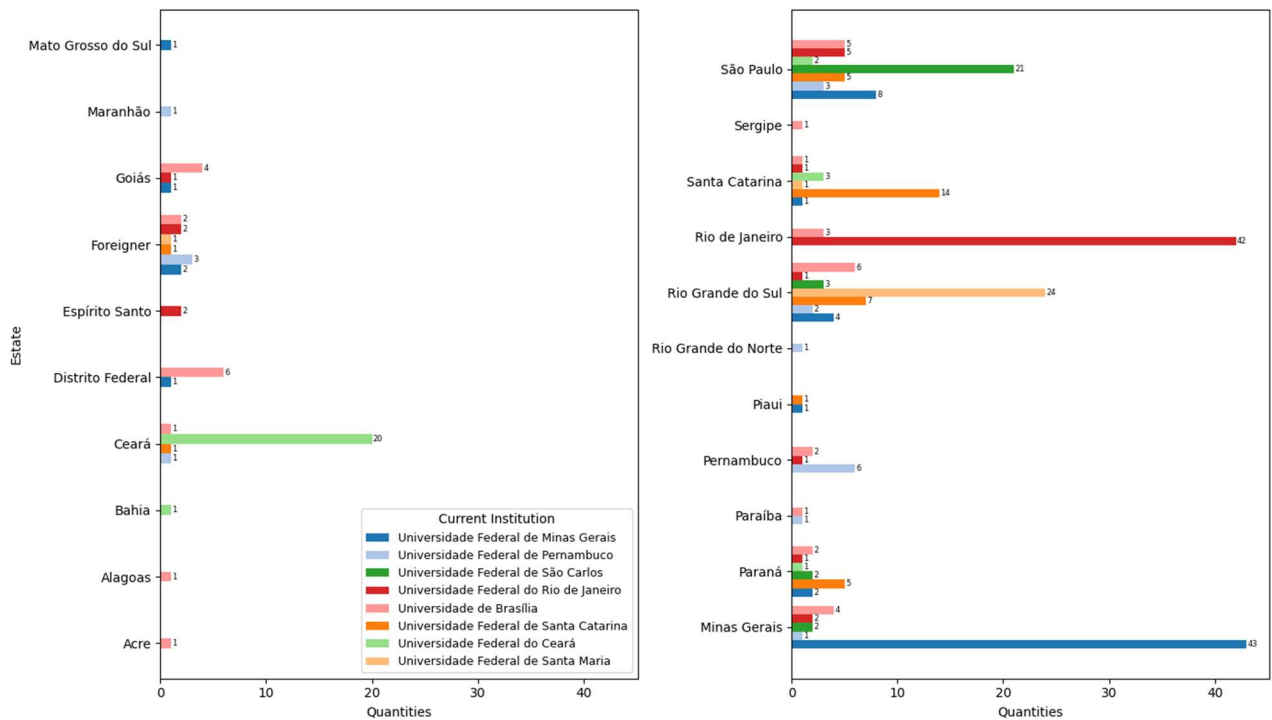


Figure 5. Geographical Distribution of Faculty Members in the universities understudy, considering undergraduate study

The UFSM stands out with the highest retention rate by percentage, with 24 out of 26 faculty members (92.3%) having completed their undergraduate education in the same state. This is clearly

visible in Figure 5, where UFSM's strong retention is evident in Rio Grande do Sul, reflecting a significant degree of institutional loyalty and possibly fewer geographic mobility options for graduates.

In contrast, UnB and UFPE demonstrate much lower retention rates within their local regions. At UnB, only 6 out of 40 faculty members (15%) completed their undergraduate studies in the Federal District, and UFPE retains just 6 out of 20 faculty members (30%) from Pernambuco. This suggests that these institutions attract a more geographically diverse pool of academics, potentially fostering a broader range of academic experiences and research collaborations.

When considering percentages, UFSCar presents a notable local retention rate, with 21 out of 28 faculty members (75%) retained from the state of São Paulo. The UFC also stands out with 20 out of 27 faculty members (74%) retained from its undergraduate programs in Ceará. This is visible in Figure 5, where Ceará and São Paulo has a significant proportion of faculty who remained in their regions.

The UFSC shows a moderate retention rate, with 14 out of 34 faculty members (41.2%) remaining in Santa Catarina. These retention levels suggest that UFSC balance between recruiting locally trained faculty and attracting talent from other regions, enhancing academic diversity within this institution.

Overall, Figure 5 reveals important patterns in faculty retention across Brazil's regions. Institutions with high local retention rates, such as UFMG, UFRJ, UFSM, UFSCar, and UFC, indicate a central role in developing and employing local talent. While this may enhance their regional impact, it could also limit the diversity of academic perspectives. Conversely, universities like UnB and UFPE, with lower local retention rates, benefit from a more geographically diverse faculty, potentially enriching their academic experiences and research capabilities.

3.4.2. MSc studies

The geographical distribution of faculty members in the universities under study, based on the state where they completed their MSc, reveals significant regional patterns and academic mobility trends.

Firstly, states such as Rio de Janeiro and Minas Gerais show the highest concentrations of faculty members who completed their MSc studies locally, with 37 and 33 individuals, respectively. This suggests that these states are key hubs for advanced academic training, particularly at the master's level, with local institutions playing a significant role in retaining talent within the region. For instance, both the UFRJ and the UFMG exhibit a strong alignment between the location of MSc study and current faculty affiliation.

Secondly, Figure 6 indicates that some states, such as Rio Grande do Sul and Ceará, have a

notable number of faculty members who completed their MSc studies locally, which suggests the presence of strong regional academic networks. This is particularly evident in Ceará, where 18 faculty members pursued their MSc within the state and all are currently affiliated with the local institution (Universidade Federal do Ceará).

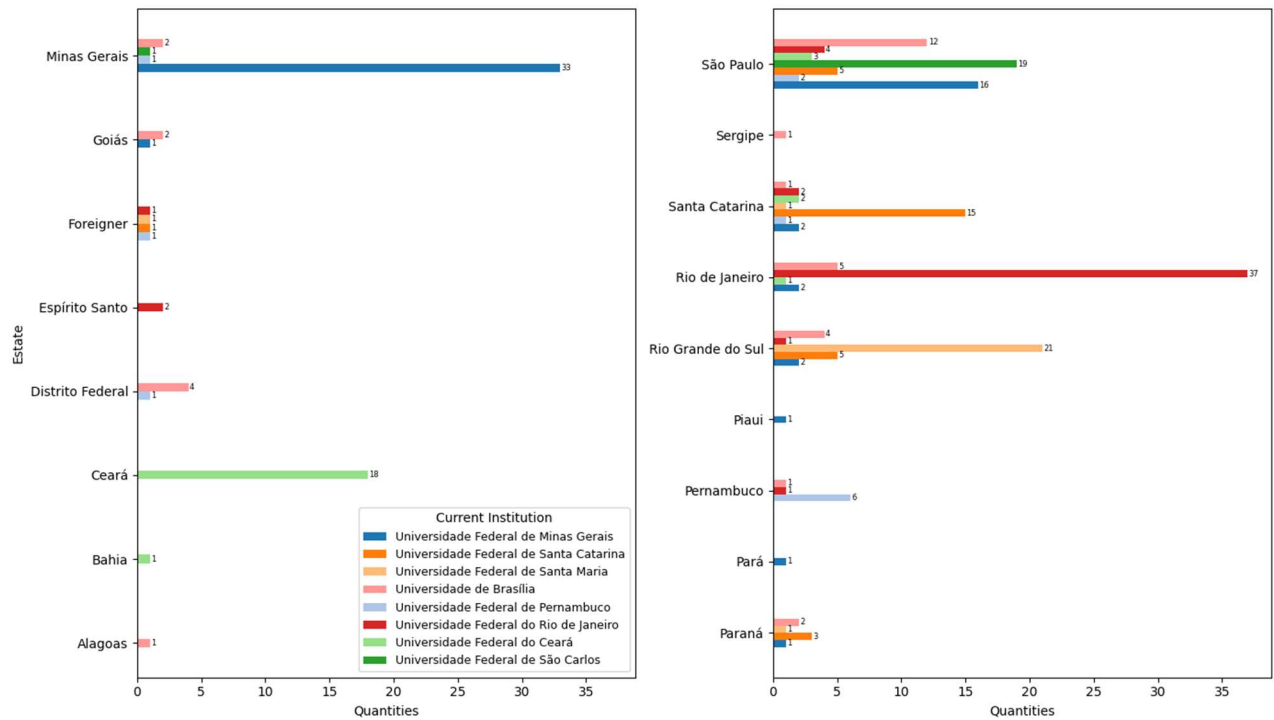


Figure 6. Geographical Distribution of Faculty Members in the universities understudy, considering state of MSc study

Interestingly, there is also evidence of significant interstate academic mobility. For instance, faculty members from states like São Paulo and Santa Catarina are distributed across various institutions, suggesting a diffusion of academic expertise beyond state borders. This might reflect the broader academic appeal of certain institutions and the ability of these universities to attract talent from other regions. The presence of interstate academic mobility underscores the interconnected nature of Brazil's higher education system, where faculty movement across state lines contributes to a dynamic exchange of knowledge and expertise.

3.4.3. PhD studies

The geographical distribution of faculty members, based on where they completed their PhD studies, provides insights into regional academic influence and the role of international education in shaping the academic workforce in Brazil. Figure 7 highlights both regional concentrations of PhD holders and the increasing role of internationalization in higher education.

A key observation from the figure is the substantial number of faculty members who completed their PhDs within Brazil's major academic hubs. São Paulo leads as the state with the highest number of PhD graduates, with a total of 82 faculty members having completed their doctorates in the state, of which 21 are currently affiliated with UFSCar. Rio de Janeiro follows, with 56 faculty members completing their PhDs in the state, of which 48 are now working at UFRJ. This highlights the prominent role of these states in doctoral training and their strong academic networks.

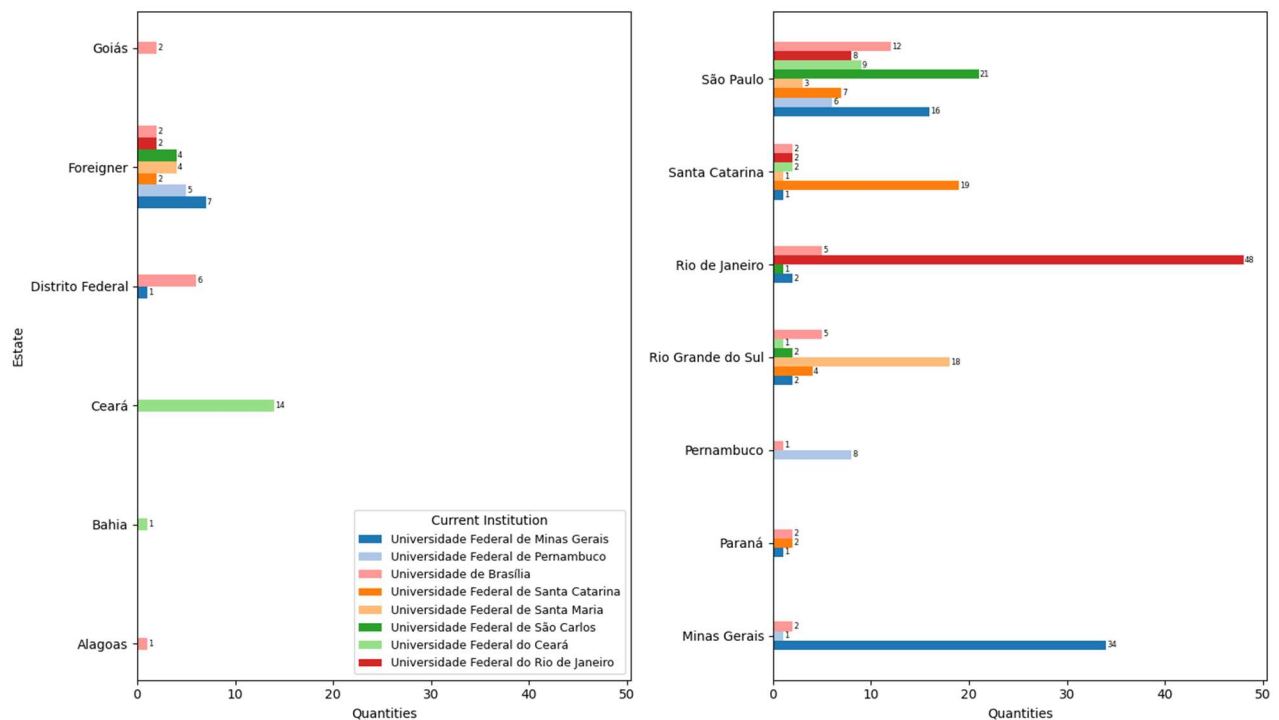


Figure 7. Geographical Distribution of Faculty Members in the universities understudy, considering state of PhD study

Next comes Minas Gerais, with 37 PhD graduates in the state, with 34 now working at UFMG, further indicating a strong tradition of local doctoral training and retention within the state. Rio Grande do Sul also plays a significant role, having produced 32 PhDs, with 18 now working at UFSM. Santa Catarina produced 27 PhD graduates, of which 19 are currently employed at UFSC, reflecting the regional strength in doctoral education and professional retention in these states.

An essential aspect of this figure is the presence of faculty members who obtained their PhDs abroad. The number of foreign PhDs is particularly notable in UFMG and UFPE, with UFMG hosting 7 foreign-trained PhDs and UFPE having 5, showing the increasing trend of international academic mobility. The graph shows a total of 26 faculty members who earned their PhDs in other countries.

In summary, São Paulo as the leading state in producing PhDs, followed by Rio de Janeiro, Minas Gerais, Rio Grande do Sul, and Santa Catarina. The data emphasize both the regional strength of doctoral programs and the rising international academic mobility among faculty members in Brazil.

This trend towards international PhD training is significant for the broader discussion of *internacionalização* (internationalization) in Brazilian higher education. The recruitment of faculty members with international PhDs points to an effort to bring global perspectives and expertise into Brazilian universities. This enhances the quality of research and teaching by integrating international best practices, fostering academic collaborations across borders, and exposing students to a diverse range of ideas and methodologies. Moreover, the return of scholars with international experience helps to globalize the academic landscape within Brazil and increases the potential for partnerships and research networks with foreign institutions.

4. Conclusions

The analysis of the geographical distribution of faculty members based on their PhD studies reveals key insights into the regional concentration and academic mobility within Brazilian universities. The data highlights the dominance of São Paulo, Rio de Janeiro and Minas Gerais as major hubs for advanced academic training, while also showing the significant role of states like Rio Grande do Sul, Santa Catarina, and Ceará in retaining locally trained faculty.

A critical dimension of this study is the presence of faculty members who obtained their PhDs abroad, reflecting the increasing trend of internationalization within Brazilian higher education. The recruitment of internationally trained scholars brings global perspectives to Brazilian institutions, fostering a more diverse academic environment and enhancing the potential for cross-border collaborations.

Ultimately, the retention of locally trained talent, alongside the incorporation of internationally experienced faculty, showcases the interconnected nature of Brazil's higher education system. This balance between local retention and international expertise is crucial for strengthening the country's academic competitiveness on the global stage. As Brazil continues to evolve in terms of research and education, these trends highlight the importance of both regional academic networks and international collaboration in shaping the future of its universities.

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ANEXO A – Comprovante de submissão do artigo



[RVq] Agradecimento pela submissão

1 mensagem

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