

ISSN 2966-4292 Braz J Rad Tec Res., 2025;2:1-10.e0008 Recebido em: 05/03/2025 Aprovado em: 01/04/2025 DOI: https://doi.org/10.70745/bjrtr.v2.33

Fundação da Academia Brasileira de Ciências Radiológicas

Foundation of Brazilian Academy of Radiological Sciences

Rafaela Vieira^{1,a*}, Andréa Huhn^{2,b}, Regma Soares de Carvalho^{3,c}, Cátia de Fátima Benevides^{4,d}, Glêicio Oliveira Valgas^{5,e}, Maria Elvira Oliveira de Jesus^{6,f}, Kézia Pereira de Oliveira Balena^{7,g}, Luciene Maria do Prado^{8,h}, Ezequiel Núbio Lucas Pereira^{9,i}, Rodrigo Modesto Gadelha Gontijo^{10,j}

¹Universidade Federal de Minas Gerais - UFMG. Belo Horizonte, MG, Brasil. ^aORCID: 0009-0005-0885-956X.

²Instituto Federal de Educação Ciência e Tecnologia de Santa Catarina – IFSC. SC, Brasil. ^bORCID: 0000-0002-4348-9374.

³Academia Brasileira de Tecnologia em Radiologia – ABTER. Campina Verde, Paraíba, Brasil. ^cORCID: 0009-0001-6719-8635

⁴Instituto Nacional do Câncer - INCA. Rio de Janeiro, RJ, Brasil. ^dORCID: 0009-0008-4733-5453.

⁵Academia Brasileira de Tecnologia em Radiologia – ABTER. Brasília, DF, Brasil. ^eORCID: 0009-0002-0915-5204.

⁶Unimak. Brasília, DF, Brasil. ^fORCID: 0009-0008-3730-2826.

⁷Unimak. Brasília, DF, Brasil. ^gORCID: 0009-0005-1893-4631.

⁸Conselho Nacional de Técnicos em Radiologia - CONTER. Belo Horizonte, MG, Brasil.

^hORCID: 0009-0007-7220-9072.

⁹Centro Universitário do Distrito Federal - UDF. Brasília, DF, Brasil. ⁱORCID: 0000-0001-5970-8490.

¹⁰Universidade Federal de Minas Gerais - UFMG. Belo Horizonte, MG, Brasil. ^jORCID: 0000-0001-6479-3087.

*Correspondência: vtrafa@gmail.com.

RESUMO

A Academia Brasileira de Ciências Radiológicas (ABCR), inspirada nos modelos existentes, atua exclusivamente como sociedade científica honorífica com o objetivo de promover, divulgar e valorizar atividades que contribuam para o desenvolvimento e estímulo ao conhecimento filosófico, científico e tecnológico da Radiologia. O objetivo deste trabalho é apresentar a ABCR, sua fundação, objetivos e composição. Além de ressaltar a importância da iniciativa para estimular nós profissionais das Ciências Radiológicas a pesquisa brasileira através do trabalho acadêmico-científico e o conceito de ciência como fator fundamental para o desenvolvimento tecnológico do país. A metodologia consistiu em abordar a concepção, objetivos e composição da ABCR por meio de seus componentes idealizadores - fundadores. A ABCR é um órgão da Associação Brasileira de Tecnólogos em Radiologia (ABTER) e conta com profissionais representantes de todas as unidades federativas, exceto ES, MA, SE, TO, e RR. A ABCR foi inaugurada de forma inédita por meio de seus fundadores trazendo à tona a relevância científico-acadêmica e profissional de seus membros diante de expressivas ações no campo das Ciências Radiológicas no Brasil.

Palavras-chave: Academias Científicas; Ciências Radiológicas; Tecnologia em Radiologia.

ABSTRACT

Brazilian Academy of Radiological Sciences (ABCR Portuguese acronyms), inspired by existing models, acts exclusively as an honorary scientific society with the objective of promoting, disseminating and valuing activities that contribute to the development and stimulation of philosophical, scientific, and technological knowledge in Radiology. The objective of this work is to present the ABCR, its foundation, objectives, and composition. In addition to emphasizing the importance of the initiative to stimulate Brazilian research in Radiological Sciences professionals through academic-scientific work and the concept of science as a fundamental factor for the national technological development. The methodology consisted of approaching the conception, objectives, and composition of the ABCR through its founder - creator components. ABCR is an organ of the Brazilian Association of Radiology Technologists (ABTER Portuguese acronyms) and have professionals representing all federative units, except ES, MA, SE, TO and RR (Portuguese acronyms). ABCR was inaugurated in an unprecedented way through its founders, bringing to light the scientific, academic, and professional relevance of its members in the face of expressive actions in the field of Radiological Sciences in Brazil.

Keywords: Scientific Academy; Radiological Sciences; Radiology Technologist.

1. INTRODUCTION

Academies originated in ancient Greece in 387 BC when Plato decided to found an independent school near Athens, in gardens dedicated to Academus [1]. In Brazil, there was the Academia Brasílica dos Esquecidos (Brazilian Academy of the forgotten), followed by the Academia dos Renascidos (Academy of the Reborn). The Scientific and Literary Academies of Rio de Janeiro emerged in the 18th century but were later dissolved due to political issues [1].

The Brazilian Academy of Letters was established in 1897, after the Cearense Republican Academy (1894). It was founded by Machado de Assis, Olavo Bilac, Rui Barbosa, Joaquim Nabuco, and others [2]. The Brazilian Academy of Sciences (1921) was originally founded on may 3rd, 1916, as the Brazilian Society of Sciences, in Rio de Janeiro, the capital of the Republic. As its founding, the institution embraces only three sections: Mathematics, Physical-Chemical Sciences, and Biological Sciences, following the model of the French Academy of Sciences [3].

The Brazilian Academy of Radiological Sciences (ABCR), inspired by the existent's models, it's part of the Brazilian Association of Radiology Technologists (ABTER Portuguese acronyms) and functions exclusively as an honorary scientific society. Its mission is to promote, disseminate, and value activities that contribute to the development and advancement of philosophical, scientific, and technological knowledge in Radiology [4]. The ABCR is composed of representatives from across Brazil, bringing together an intellectual elite, primarily consisting of masters and doctors with highly distinguished academic backgrounds, exceptional professional experience, and authorship of works widely recognized in the field.

This paper aims to present the ABCR, its foundation, objectives, and structure. Additionally, it seeks to emphasize the importance of this initiative in encouraging Radiological Science professionals to engage in research through academic-scientific work, highlighting the concept of science as a fundamental factor for the national technological development.

2. MATERIALS AND METHODS

The methodology of this work is a documentary research method, and consisted of describing the conception, objectives, and composition of the ABCR through its foundind and idealizing members.

Idealization: The ABCR was conceived in 2022 by the founding president of ABTER, Professor Ezequiel Núbio Lucas Pereira, who, in the following year, presented the project to his fellow professors from the Federal District – Kézia Pereira de Oliveira Balena, Maria Elvira Oliveira de Jesus, and Glêicio Oliveira Valgas – who promptly assisted in developing the planning for the implementation of the Academy.

Approval and Registration: The creation of ABCR was approved at the ABTER General Assembly on July 2nd, 2023, where unanimously those present agreed

to register ABCR in the Social Statute of the Association as Organ advisory of honorific nature.

Foundation: The foundation was carried out by the ABCR Commission, chaired by Professor Rodrigo Modesto Gadelha Gontijo (Minas Gerais - MG) and composed of professors Andréa Huhn (Santa Catarina - SC), Regma Soares de Carvalho (Rondônia - RO), and Cátia de Fátima Benevides (Rio de Janeiro - RJ).

Ethical Criteria: The Titular Members ("Immortals") were selected by the responsible Commission, which conducted a meticulous curriculum analysis based solely on technical criteria, without distinction of nationality, color, gender, political or religious affiliation, or cultural. The evaluation considered not only professional qualifications, titles, and awards but also the candidate's moral integrity and contributions to Brazilian radiology.

Invitation Letter: An invitation Letter was prepared by the President of ABTER and ABCR and sent by email individually to each future member, announcing the creation of the Brazilian Academy of Radiological Sciences, an entity affiliated to the Brazilian Association of Radiology Technologists.

Inauguration and Induction: The inauguration and induction ceremony of the "Immortals" occurred on November 18th, 2023, in Brasília – DF, during the III Multidisciplinary Congress of Radiology (COMRAD).

Membership (Founding and Titular Members): During the ABCR inauguration ceremony, 47 "Immortals" were inducted. However, other professionals may be invited in the future through formal ceremonies to take their place among the "Immortals".

Response from Invitees: All invited professionals accepted and confirmed the invitation by e-mail, except for two who were unable to attend due to scheduling incompatibility with previously arranged commitments.

Symbolism: The ABCR logo (Figure 01) reflects professional appreciation through a scientific perspective, emphasizing knowledge as an intrinsic tool for the advancement of Radiological Science. The basic concept of the logo's aesthetics features the official ABTER logo in its central area, representing its superior entity. The map of Brazil in the background refers to the territorial scope of ABCR, while the distinct shade of blue transmits serenity and national tranquility. The leaf branches serve

as an ornament symbolizing victory or achievement. The yellow ribbon represents optimism and joy, as well inspiring creativity and stimulating mental activities.

Figure 1 – Official ABCR logo



Source: ABCR Committe, 2023.

3. RESULTS

The Brazilian academy of Radiological Sciences (ABCR) is an organ of the Brazilian Association of Radiology Technologists (ABTER) and has professionals representing all federative units, except ES, MA, SE, TO and RR (Portuguese acronyms).

The members of the Academies are called "Immortals" because they hold permanent and lifelong positions. During the Induction Ceremony, they receive a medal inscribed with the word "To Immortality." This academic and professional recognition through ABCR aims to reinforce the members importance in the scientific and technological development and expansion of radiological sciences in Brazilian society. Table 1 lists the 55 members inducted in 2023 and 2024 along with their respective patrons and patronesses, as well as the number of their chairs.

Table 1: Official List of Members and Patrons of ABCR

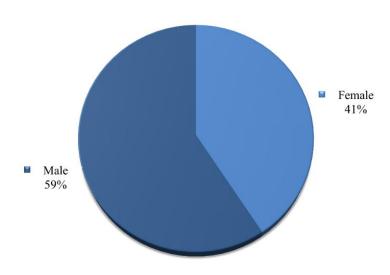
Chair	Members	UF	Patrons/Patronesses	year of entry	
	Founders				
01	Ezequiel Núbio	DF	William C. Röentgen		
02	Kézia Balena	DF	A.H. Becquerel		
03	Maria Elvira	DF	Marie Curie		
04	Glêicio Valgas	DF	Pierre Curie	2023	
05	Rodrigo Gadelha	MG	Luiz Tauhata		
06	Andréa Huhn	SC	Harriet Brooks		
07	Regma Soares	RO	Gustaf Ising		

08	Cátia Benevides	RJ	Marguerite C. Perey		
Chair	Members	UF	Patrons/Patronesses	year of entry	
	Titleholders				
09	Adriana S. M. Batista	MG	Lise Meitner	2023	
10	Alberlúcia Soares	DF	Sonja Ashauer	2023	
11	Alexandre Araújo	SP	Edward Purcell	2023	
12	Alexandre Gomes	RJ	Lauriston Taylor	2023	
13	Alexsandro Ferreira	SP	Albert Salomon	2023	
14	Almir Nobrega	SP	Felix Bloch	2023	
15	Ana C. Trevisan	SP	Ida Noddack	2023	
16	Ariosto Marques	PB	George Hevesy	2023	
17	Críssia Paiva	MG	Elisa F. Pessoa	2023	
18	Débora Teixeira	MS	William Crookes	2023	
19	Ednaldo Jr	PI	Otto Walkhoff	2023	
20	Danilo Peron	SP	Christian A. Doppler	2024	
21	Francisca Melo	PE	Harvey Cushing	2023	
22	Francisco A. Silva	AC	Johann Radon	2023	
23	Galtieri Medeiros	RN	Godfrey Hounsfield	2023	
24	Gilvan Lopes	DF	Nikola Tesla	2023	
25	Flávia Reis	MG	Rolf M. Sievert	2024	
26	Guilherme Oberto	SP	Walter B. Cannon	2023	
27	Janaína Moraes	RS	Nicola C. Caminha	2023	
28	José Bruno Leite	PB	Karl F. Braun	2023	
29	Karla Samila Silva	AP	Alessandro Vallebona	2023	
30	Lázaro Fideles	CE	Henrico Fermi	2023	
31	Lucas M. Trindade	PA	Raphael P. Barros	2023	
32	Luciana Batista	MG	Iréne Joliot-Curie	2023	
33	Luciano Sales	AM	José Carlos F. Pires	2023	
34	Luciano Santarita	RJ	Johannes W. Geiger	2023	
35	Marco A. Avanzi	MT	Adolpho Lindenberg	2023	
36	Marcos V. Trindade	GO	Manoel D. Abreu	2023	
37	Marcus Oliveira	BA	Albert Einstein	2023	
38	Maroan Navas	PR	Michel T-Pogossian	2023	
39	Maurício Mitsuo	BA	William L. Dudley	2023	
40	Max Ferreira	RJ	William H. Roillins	2023	

Chair	Members	UF	Patrons/Patronesses	year of entry	
	Titleholders				
41	Morise Gusmão	PB	Hal Oscar Anger	2023	
42	Peter Kühn	SC	Max K.E.L. Planck	2023	
43	Railson Cruz	PA	Allan M. Cormack	2023	
44	Stênio Rezende	GO	Aristides Negretti	2023	
45	Taynná Rocha	PR	Emil H. Grubbe	2023	
46	Thamyra Santos	AL	Ernest Rutherford	2023	
47	Vera Lúcia Souza	DF	Walter E. Dandy	2023	
48	Walter Reis	DF	Alfredo T. Britto	2023	
49	Yuri Borges	CE	Joseph J. Thomson	2023	
50	Guillermo López	BA	Bernard G Plantes	2024	
51	1		José Maria C Campos		
52	Ilse Franco	GO	Claude Regaud	2024	
53	Luciene Prado	DF	Edith Quimby	2024	
54	Rafaela Camargo	SP	Rosalind E Franklin	2024	
55	Raphael Ruiz	SP	Keneth L Bontrager	2024	

Source: ABCR Commission, 2025.

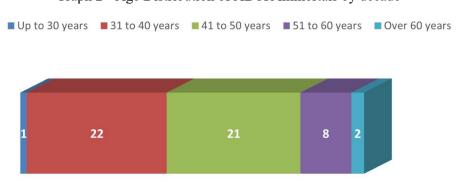
The analysis of the gender distribution of the members of the Brazilian Academy of Radiological Sciences (ABCR) (Graph 01) reveals a predominance of male members, who represent 59% of the total, while women account for 41%.



Graph 1 - Gender Distribution of ABCR Immortals

Source: ABCR Commission, 2025.

Regarding the age composition (Graph 2), most members are in the 31 to 40 age group (22 individuals) and the 41 to 50 age group (21 individuals), followed by those aged between 51 and 60 (8 individuals). There is lower representation among younger members (up to 30 years old, with 1 individual) and those over 60 (2 individuals).



Graph 2 - Age Distribution of ABCR Immortals by decade

Source: ABCR Commission, 2025.

4. DISCUSSION

This work was inspired by a previous work presented at the Multidisciplinary Congress of Radiology (COMRAD 3) in Brasília-DF, 2023 [9]. One of ABCR's main legacies to date is the first edition of Autobiography of the 54 immortals inaugurated in 2023 and 2024 [10].

The ABCR was established with the goal of promoting, disseminating and valuing activities that contribute to the development and encouragement of philosophical, scientific, and technological knowledge in Radiology [4]. When a group of people engaged in the same type of work forms an organization, it becomes an organized endeavor, immersed in a social and political context [5].

Among the central objectives of Associations and Academies is the emphasis on public goods. This emphasis serves to enhance the profession's images by demonstrating the value and importance of its members to society through the application of their specialized knowledge skills. Furthermore, associations aim to promote interaction within their community, establishing a cultural unity within the profession, institutionalizing codes of conduct, educational and performance standards, and promoting advancements and innovations [6].

A study shows that the origins of orders, such as those of engineers and lawyers, can be traced back to the Middle Ages [7]. Moreira and Rego (2002) suggest that various pieces of evidence indicate that the natural affinities within a professional led officials to establish pacts for mutual assistance (in case of old age, illness, disability, poverty, or other vulnerable conditions) and collective defense. This may have contributed to the emergence of the first corporate authorities [7].

The main class entities in the field of Radiological Techniques are the National Council of Radiology Technicians (CONTER – Portuguese acronym), Associations, and Unions. Associations represent the interests of the professional class, and their primary function is to facilitate the exchange of knowledge among professionals, encouraging their qualifications. Currently, ABTER is the only active national association in the country [8]. At the regional level, an important example is ATRESP (Association of Radiology Technicians and Technologists of the State of São Paulo), founded in 1952 after the establishment of the Brazilian College of Radiology (CBR – Portuguese acronomys) in 1948.

According to the ABTER statute, ABCR aims to mobilize the scientific community so that it engages with governmental authorities, seeking national scientific and technological advancement, fostering innovation, and promoting interest in healthcare [4].

5. FINAL CONSIDERATIONS

The ABCR was uniquely inaugurated by its founders in 2023, highlighting the scientific, academic and professional of its members through impactful actions in the field of Radiological Sciences in Brazil.

ACKNOWLEDGMENT

The authors would like to thank the ABTER board of directors for proposing the ABCR.

REFERENCES

- [1] Diário do Comércio. Um pouco de história das Academias 28 de junho de 2019. Available from: https://diariodocomercio.com.br. Accessed October 08, 2023.
- [2] ABL. Academia Brasileira de Letras. Relatório de Inauguração da Academia (20/07/1897). Available from: https://www.academia.org.br/abl. Accessed October 08, 2023.
- [3] ABC. Academia Brasileira de Ciências. História. Available from: https://www.abc.org.br/ainstituicao/sobreaabc/historia. Accessed October 08, 2023.
- [4] ABTER. Associação Brasileira de Tecnólogos em Radiologia. Estatuto da Academia Brasileira de Ciências Radiológicas (ABTER). Available from: https://abter.org.br/academia-de-radiologia/. Accessed October 08, 2023.
- [5] Freidson E. O renascimento do profissionalismo: teoria, profecia e política. São Paulo: Editora USP, 1998.
- [6] Hovekamp TM. Professional associations or unions? A comparative look. Library Trends, v. 46, n. 2, 1997. p. 232-244.
- [7] Moreira JM, Rego A. Ordem dos engenheiros: em busca de novas responsabilidades. Available from: https://www.researchgate.net/publication/242422004. Accessed October 10, 2023.
- [8] CONTER. Conselho Nacional de Técnicos em Radiologia. Entenda as entidades de classe e suas funções (08/09/2022). Available

from:https://www.conter.gov.br/site/noticia/entidades-de-classe. Accessed October 10, 2023.

[9] Gontijo RMG, Hunh A, De Carvalho RS, *et al.* Academia Brasileira de Ciências Radiológicas: Fundação. Trabalho apresentado no COMRAD – Congresso Multidisciplinar de Radiologia, 2023. Available from: https://abter.org.br. Accessed March 30, 2025.

[10] Ferreira AE, Gontijo RMG, Da Cruz DT. Academia Brasileira de Ciências Radiológicas: Autobiografia dos Imortais. São Carlos: Pedro & João Editores, 2024.