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Silvia Fernanda de Mendonça Figueirôa: Brazilian Historian of Geology and First Woman President of the International Commission on the History of Geological Sciences (INHIGEO)

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Silvia Fernanda de Mendonça Figueirôa served as the first, and as of 2025, only woman president of the IUGS International Commission on the History of Geological Sciences (INHIGEO). Trained as a geologist she became the first historian of geology in Brazil and the first historian of Brazilian geology. This paper outlines her personal account of her education and motivations, career choices, her achievements, and her involvement with and presidency of IUGS INHIGEO. She has made major contributions to the history of geology, history of science and empire, and science education in STEM fields. Her story especially highlights the challenges and successes of women in the field of the geological sciences and those who have created cross-disciplinary bridges within the history of science. Silvia Figueirôa, through her efforts in raising awareness of the role of studies on the development of geology, has been instrumental in forging links between the Unions on Geology and the History of Science for the benefit of both communities.

Introduction

Making a successful career in the history of geology by unearthing forgotten histories of colonial geology, when one is almost alone in forging the path, requires a certain kind of investigator, both tenacious and assertive. But despite the challenges, Professor Silvia Figueirôa displays cheerful courage as she is quick to befriend colleagues and to welcome younger students and scholars who genuinely seek to understand. A founding figure in Brazilian and Latin American history of geology, her work ranges from early Brazilian geological research to challenging colonial models of science to geological education and its history. Her presidency in the IUGS INHIGEO commission demonstrates not only her excellence as a scholar but also her commitment to interdisciplinary and international collaboration.

Methodology

This biographical paper is based primarily on interviews with Sil-

via Figueirôa and a review of the INHIGEO Annual Records from 1967-2024. The authors conducted an interview with Figueirôa on 16th October 2025, where we asked about her motivations for studying geology and history, her educational journey, her academic work and teaching, and her involvement in IUGS INHIGEO. We have also referenced another interview of Figueirôa conducted by Ana Carneiro (Portugal, historian of science and INHIGEO member) in 2008, when Silvia was elected as IUGS INHIGEO president. The research for this article also included a review of a handful of Figueirôa's published papers to attempt to summarize some of her most important academic contributions. Kenneth Taylor (USA, historian of science, INHIGEO president from 2012-2016) has also provided insight into the history of IUGS INHIGEO and Figueirôa's career. Oral histories like these are essential for fully understanding the history of IUGS commissions (and other scientific organizations), as simply reviewing some articles cannot demonstrate the rich history or the experiences of the members of these organizations. By looking at one notable figure in the history of IUGS INHIGEO, it is clear that the international organization and the scholarly network it provided were essential to advancing Figueirôa's education and career, providing both a community and a resource to overcome many of the challenges she faced. In turn, Figueirôa strengthened the commission with her academic work, commitment to including voices from underrepresented (and often postcolonial) countries, and promotion of international and interdisciplinary dialogue.

Motivation for Studying Geology

Born in Santos, on the coast of Brazil near São Paulo, Figueirôa grew up inspired by the geology and physical geography of Brazil. As an elementary student, she was introduced to local and Brazilian geology by a teacher named Norman Kerr Jorge.

... he taught a lot of physical geography. And he talked about the geology of my hometown and the hills, and the rocks in these hills. And about Brazil in general. I was fascinated by that (Interview, 2025).

As a result, she resolved to study geology at university. At first, Figueirôa considered the school of mines at the Federal University of Ouro Preto (the oldest geological school in Brazil). However, she instead decided to study geology at the University of São Paulo, graduating with a bachelor's degree in 1982 (Figueirôa, 2016b, Interview, 2025).

Gender inequity was a challenge. One of fifteen women in a class of fifty, Figueirôa notes that fifteen was a record high due in part to a movement called "Women in Geosciences" begun by professional women seeking equal respect at institutions such as Petrobras (a Brazilian petroleum company). Figueirôa recalls that she and the other women in the program had to work much harder than their male counterparts to prove they belonged in the program.

When I was at my undergrad in geology, we had to work double or triple to prove that we were equal. And I played this game also. I worked very hard and studied very much. I tried to be one of the best. My female colleagues, too (Interview, 2025).

(For an overview of gender equity issues in the geosciences, see Kölbl-Ebert and Turner, 2017).

While majoring in geology, Figueirôa enjoyed courses in the philosophy of science taught by Pablo Mariconda (1949-2025), who introduced her to the work of Pierre Duhem (1861-1916), Duhem (1861-1916), Karl Popper (1902-1994), and Thomas Kuhn (1922-1996). She notes:

Nothing was said about the geosciences, only about Physics and Mathematics, but it was precisely this lack of discussion on geological themes that prompted me to search for the literature available on this topic (Carneiro, 2008, p. 31).

From Geology to History of Geology

Lack of financial resources available to women posed additional challenges. In the 1980s Brazil, along with other South American countries, was in a prolonged economic crisis known as the Lost Decade ("década perdida"), which limited career options for many graduates.

We had a huge economic crisis and no jobs, especially for geologists and others in fields that need governmental investment (Interview, 2025).

Silvia considered applying for jobs abroad, including in Mozambique. Ultimately, she decided to stay in Brazil and pursue a graduate degree.

With encouragement from Conrado Paschoale (d. 1990) (her former university professor and the namesake of the Library of the Institute of Geosciences UNICAMP), Figueirôa decided to pursue her awakening passion for the history and philosophy of science and science education.

He told me, 'You should go to the Department of History. They have a Center for the History of Science and Technology.' Then I went and spoke to the director, and he said, 'Oh, wonderful! We've never had someone from geology' (Interview, 2025)



Figure 1. Figueirôa with Maria Amélia Mascarenhas Dantes, another major Brazilian historian of science, at the IVth Latin American Congress HST, 1995. Photograph: Silvia Figueirôa.

Figueirôa taught courses in mineralogy at UNICAMP to geology students, emphasizing the importance of the earth sciences for the students' areas of study.

Institutional challenges made it difficult to identify a community of like-minded scholars. There were few historians of science at that time interested in Brazilian science. Most approached their topics with the Eurocentric perspectives that had long been customary in the history of science. A few, such as Maria Amélia Mascarenhas Dantes, began to study the history of Brazilian science. The Department of History included a Center for the History of Science and Technology which welcomed Figueirôa as their first specialist in the history of geology.

When she joined the history department, Figueirôa began researching in the archives of Instituto Geológico, the oldest geoscientific institution in São Paulo. The Institute of Geology of São Paulo was facing closure due to government pressure and Figueirôa was determined to study their holdings before they were lost.

I saw they had a strong history. Marvelous archives. Not organized at all, but a lot of material. And they were supposed to disappear. And I said, no, I must study them because they were founded in 1886... And that's the way I started in the history of geosciences. And I also became completely fascinated by the history. I was fascinated by geology and the history of geology (Interview, 2025).

This archival work came to fruition at the centenary of the Institute in 1986 with an exhibition and publication of its history, *Um século de pesquisas em Geociências (One Century of Research in Geosciences)*, edited and published by Figueirôa in 1985.

International Networks – IUGS INHIGEO

The support of international colleagues proved crucial in overcoming academic obstacles. Figueirôa knew of no other Brazilians studying the history of geology, nor did she know anyone else studying the history of Brazilian geology. So she reached out to Roy Porter (1946-2002), a British historian of science and medicine, after reading *The Making of Geology: Earth Science in Britain 1660–1815* (1977).

I wrote out of the blue. I said, 'Hello, I am Silvia Figueirôa from Brazil. I'm just starting my master's degree. I read your book. I thought it was wonderful. And I'm alone here on the history of geology. I would be very grateful if you could send me some papers or indicate other things to read' ...He replied, in a very kind letter, saying, 'Oh, wonderful that you are doing that. And I'm just moving from the history of geology to the history of medicine. But I have half a dozen friends and colleagues that I could put you in contact with' (Interview, 2025).

Porter directed her to other major historians of geology from several countries, such as Martin Rudwick (UK), Hugh Torrens (UK), Gordon Davies (UK & Ireland, 1932-2019), James Secord (USA), and Nicolaas Rupke (Netherlands). Silvia reports that they were all happy to welcome her into the community and to share resources that might support her research (Interview, 2025).

IUGS INHIGEO played a formative role from the beginning of Figueirôa's graduate study and professional career, facilitating her connections with other scholars worldwide. In 1984, her father, who worked at the airport, was able to use his connections to secure a ticket for her to travel to Russia for the XIth INHIGEO Symposium convened by Thomas George Vallance (Australia, INHIGEO vice president from 1976-1987), Vladimir V. Tikhomirov (USSR, INHIGEO president from 1967-1976), and Reijer Hooykaas (Netherlands, INHIGEO president from 1976-1984). In Moscow, Figueirôa presented a paper in a session devoted to the history of mineralogy titled "La Commission Géographique et Géologique de São Paulo; un travail à peine commencé." Of twenty-seven papers in the session, this was the only paper addressing a South American theme, although at least one other paper considered geology in a colonial context (Vallance addressed mineralogy in colonial Australia) (INHIGEO, 1985, p. 10 <https://inhigeo.org/wp-content/uploads/2024/12/19-1.pdf>) At the Symposium, Figueirôa met in person many active historians of geology. She recalls:

From this meeting onwards, Hugh Torrens [UK, INHIGEO president from 1996-2000], Martin Guntau [Germany, INHIGEO president from 1989-1992] and François Ellenberger [France, INHIGEO member and founder of COFRHIGÉO - Comité français d'histoire de la géologie in 1976] became my main intellectual mentors, in addition to being great friends (Carneiro, 2008, p. 32).

This group of historians was critical to her career, as they provided international support for an isolated scholar.

I was the only geologist and the only person studying history of geology in Brazil at that time. So I didn't have anyone [in Brazil] to talk with (Interview, 2025).

Later, in 1989, Bill Brice (US, INHIGEO editor from 2016-2020) also joined her team (Interview, 2025).

Studies in Brazil and Europe

From this point on, Figueirôa remained involved in INHIGEO. Back home, she submitted a report from Brazil for the Annual Record (INHIGEO, 1984, pp. 9-11, 17 <https://inhigeo.org/wp-content/uploads/>

2024/12/18-1.pdf). In it, she noted the formation in November of that year of a new Brazilian Commission on the History and Theory of Geology. Its executive board consisted of Adalberto da Silva (Universidade Federal do Rio de Janeiro), Conrado Paschoale (Universidade Estadual de Campinas or UNICAMP), and Figueirôa (Instituto Geológico, São Paulo). In the years that followed, Figueirôa continued to supply the Annual Record with annual reports for Brazil, which brought the activities of a nascent Brazilian community of scholars, and her own steady stream of publications, to the attention of INHIGEO members.

In the Department of History, Figueirôa completed a master's in 1987 and a PhD in 1992 in History, her topic being the history of geology in Brazil. Figueirôa had considered going to the UK for her PhD since so many historians of geology resided there, but due to a lack of financial and institutional support, she decided to remain in Brazil. However, Campinas (UNICAMP) had an agreement with the University of Rostock in Germany, so Figueirôa conducted research in Germany for her PhD, where she deepened her friendship with Martin Guntau (1933-2019), an important German historian of geology.

My university had an agreement with the University of Rostock. And then I took advantage of this agreement. I had a scholarship for three months, and I spent [my time] there working on the libraries. I went to Freiberg. I did a lot of research. It was fascinating for me. And I had a lot of interaction with Martin Guntau (Interview, 2025).

Figueirôa and Guntau later went on to collaborate on several papers, including work on 19th-century geologists working in Brazil, such as Wilhelm Ludwig von Eschwege (1777-1855) (Figueirôa and Guntau, 1997, Figueirôa, 2000, Interview, 2025). She then completed a postdoctoral fellowship at the Centre Alexandre Koyré d'Histoire des Sciences et des Techniques in France, researching the international relationship between French and Brazilian geology.



Figure 2. Figueirôa with Martin Guntau (INHIGEO president from 1989-1992), IG-UNICAMP, Germany, 1993. Photograph: Silvia Figueirôa.

University Professor – Establishing History of Science Community

Working in the Institute of Geosciences of Campinas (UNICAMP) beginning in 1987, Dr. Figueirôa achieved the rank of full professor in 2006 and served as the Institute of Geosciences (UNICAMP) director from 2009-2013. Under her supervision, in the Department of Geoscience Education/UNICAMP in October 2004, Clarette Paranhos da Silva successfully completed the third Brazilian PhD dissertation on the history of geosciences (Margaret Lopes had completed the second, and Figueirôa the first). In 2006, Ermelinda M. Pataca completed another doctoral thesis on geohistory (Interview, 2025).

In 2013, Figueirôa moved to the Faculty of Education, University of Campinas (FE-UNICAMP) in which, supported by the National Research Council (CNPq), she carried out research on geoscience textbooks. After switching departments, Figueirôa worked with a broad range of students, especially those studying science education. Throughout her career, Figueirôa mentored many students who went on to have successful careers as science educators and historians of science. Instead of just teaching history to historians, she has always worked with students from a wide variety of disciplinary backgrounds. Many have been geoscientists, in addition to her students in education and history. The history of science, she believes, is essential for scientists to understand (Interview, 2025).

Active in many scholarly associations, Figueirôa worked to organize professional conferences, including INHIGEO Symposia (Brazil in 1993; Liège in 1997; and Rio de Janeiro in 2000); and the Vth Latin American Congress on the History of Science and Technology (LACHST; in Rio de Janeiro in 1998). She devoted many years and her own resources to helping establish history of science communities in Brazil, South America, and Central America (Ramos-Lara, 2024). She has remained very active in Latin American societies for the history of science as well as worldwide associations.

Figueirôa has been a Corresponding Member of the International Academy of the History of Sciences (IAHS) since 2019. She is currently the First Vice-President of the International Union of History and Philosophy of Science and Technology – Division for the History of Science and Technology (IUHPST/DHST). She served as president of the Latin American Society for the History of Science and Technology (LASHST, 1995-1998); as president of the History of the Earth Sciences Society (HESS, 2001-2002); and as president of the International Commission on Science Empires (IUPHS-DHS, 2001-2005). In 2006, she received the Medalla Académica from the Mexican Society of History of Science and Technology, and in 2024, the History and Philosophy Division of the Geological Society of America (GSA) honored her with the Mary C. Rabbitt History and Philosophy of Geology Award for lifetime achievement.

Networking Latin America through IUGS INHIGEO

Although active in INHIGEO since 1984, Figueirôa was one of eight persons elected to Full Membership of IUGS INHIGEO in 1989, the first Full Member from Brazil. INHIGEO continued to function as

a venue in which she could establish collaboration with colleagues worldwide. These scholarly networks were critical to Figueirôa's success in organizing conferences and establishing professional communities for the history of geology in Brazil and Latin America.

To take one example, in July 1988, the year before her election to Full Membership, Figueirôa helped organize a colloquium on the History and Theory of Geological Knowledge sponsored by UNICAMP and co-sponsored by INHIGEO. The eighty-three participants included five INHIGEO members: Martin Guntau (Germany), Hugh Torrens (UK), John Thackray (UK), Franco Urbani (Venezuela), and Alexander Ospovat (USA). This was the first conference on the history of geology held in a Latin American country. Figueirôa co-edited and distributed a 325-page volume of proceedings, *O Conhecimento Geológico na América Latina: Questões de História e Teoria* (Lopes and Figueirôa, 1990).

For another example, Figueirôa participated in the XVIIth INHIGEO Symposium in Dresden in 1991. Four Brazilians attended, with three of the four presenting (including Figueirôa). In her report for the INHIGEO Annual Record, Figueirôa noted the milestone, observing.

This is the first time since Brazilian researchers got in touch with INHIGEO that more than a single participant from Brazil has attended a symposium. It is clear evidence of the growing interest in the history of the geological sciences in that country (INHIGEO, 1992, p. 20 <https://inhigeo.org/wp-content/uploads/2024/12/24-1.pdf>).

Figueirôa submitted a proposal to host the XVIIIth INHIGEO Symposium in 1993 in Brazil on the theme “Geological Sciences in Latin America: Scientific Relations and Exchanges.” It became the first INHIGEO annual Symposium held in South America. To help prepare for this event, Figueirôa organized a one-day symposium on the history of geology as part of the 1992 Brazilian Geological Congress in São Paulo. She reported that “ten papers were presented, mainly on the history of geological sciences in Brazil and other parts of Latin America,” along with “a fascinating paper on the History of Dinosaurs by Hugh S. Torrens,” at that time one of INHIGEO's Vice-Presidents. She characterized the event as of

...major importance for the development of the history of the geological sciences in Brazil,

helping to consolidate interest before the INHIGEO Annual Symposium the following year (INHIGEO, 1993 <https://inhigeo.org/wp-content/uploads/2024/12/25.pdf>).

The INHIGEO Symposium for 1993 started in Campinas and finished in the famous mining town of Ouro Preto, Minas Gerais, with four paper sessions at the University in Campinas, one session at the Escola de Minas in Ouro Preto, and field excursions. Participants came from twelve countries, including nineteen from Brazil, two from Columbia, and one each from Argentina, Bolivia, Costa Rica and Mexico. In all, twenty-five participants from Latin America far exceeded the previous record of three Latin American participants at any previous INHIGEO Symposium. Figueirôa noted that Latin American attendees were able to come because of the availability of financial support and their own personal initiative. She reported that their presence contributed new historiographical perspectives as well as new case studies and historical sources:



Figure 3. INHIGEO XVIIIth Symposium participants in 1993 at Ouro Preto, Brazil. Field excursion. Ouro Preto, a major mining town in Brazil, is home to the oldest geology school in the country. Photograph: Margaret Lopes and Silvia Figueirôa.

The expressive Latin American presence promoted a fruitful exchange of ideas, methodologies and comparisons as well as a confrontation, in some cases, between American and European approaches. The main purposes of the Symposium were fully realized by speakers who showed that Latin American scientists played an active role in the development of scientific activities in their countries and did not act as merely passive receivers of a science produced elsewhere. The participants also brought a series of new observations which were the results of research on unexplored or new sources in libraries and archives in their countries (INHIGEO, 1994 <https://inhigeo.org/wp-content/uploads/2024/12/26.pdf>).

The papers were published by the Organizing Committee in a book which Figueirôa distributed after the Symposium (Figueirôa and Lopes, 1994).

The year after the INHIGEO Symposium, Figueirôa organized another session of nine papers presented as part of the Congress of the Brazilian Geological Society. She remarked that this occasion

...illustrates that this field of knowledge is no longer seen as strange to the Brazilian geoscientific community as it was a decade ago (INHIGEO, 1995, <https://inhigeo.org/wp-content/uploads/2024/12/27.pdf>).

Now, with the emergence of a Brazilian community of researchers in the history of the geosciences, Figueirôa worked to maintain it with additional events. In 2000, IUGS INHIGEO sponsored a History of Geology Section for the 31st International Congress in Rio de Janeiro, and Figueirôa served on the planning committee. Despite numerous organizational challenges, David Oldroyd (Australia, INHIGEO secretary-general from 1996-2004) cited Silvia's work as "a tower of strength for the Rio Congress" (INHIGEO, 2004 <https://inhigeo.org/wp-content/uploads/2024/12/36.pdf>). Kennard Bork (USA, INHIGEO secretary-general from 2004-2008) and Barry Cooper (Australia, INHIGEO president from 2016-2020) explain: "Silvia Figueirôa (Brazil) performed



Figure 4. "An international meeting of INHIGEO minds. Dublin, Ireland, 2003. Martin Gunttau (Germany, INHIGEO president from 1989-1992), Silvia Figueirôa (Brazil), Ezio Vaccari (Italy, INHIGEO president from 2020 to present), Manuel Pinto (Portugal, INHIGEO president from 2000-2004)." Photograph: Carneiro, 2008, p. 33.

heroic tasks on behalf of INHIGEO, but the organizational structure of the Rio meeting generated numerous problems, for which the IUGS President apologized. INHIGEO's theme 'Major Developments in Geology in the 20th Century' went well" (Bork and Cooper, 2017). The INHIGEO session at Rio resulted in a publication of proceedings, *The Earth Inside and Out* (Oldroyd, 2002).

Elected President

Women have been involved in IUGS INHIGEO since the beginning. Joan Eyles (UK, 1907-1986, also a founding member of the British



Figure 5. 2008 IUGS INHIGEO meeting held in Oslo, Norway. Seated: Philippe Taquet (France, INHIGEO president from 2004-2008), Barry Cooper (Australia, INHIGEO president from 2016-2020), Silvia Figueirôa, and Kennard Bork (USA, INHIGEO vice-president from 2004-2008). At this meeting, Figueirôa was elected president. Photograph: Silvia Figueirôa.

Society for the History of Science) was part of the constituent assembly of INHIGEO and elected a corresponding member in 1967 (INHIGEO, 1967, pp. 36, 39 <https://inhigeo.org/wp-content/uploads/2024/12/01-1.pdf>). Eyles is representative of many members of IUGS INHIGEO, as she was both a geologist and a historian. INHIGEO has always welcomed geologists in addition to historians, and their meetings include geological field trips. Later, Ursula Marvin (USA), a full member of INHIGEO who was also a geologist and historian, was elected as the Secretary-General from 1989-1996 (INHIGEO, 1990, p. 3 <https://inhigeo.org/wp-content/uploads/2024/12/22-1.pdf>).

Finally, in August 2008, with the selection of a new INHIGEO Board in Oslo, Norway, IUGS INHIGEO members elected Silvia Figueirôa as their first woman president (INHIGEO, 2009 <https://inhigeo.org/wp-content/uploads/2024/12/41.pdf>). Figueirôa served in this capacity from 2008-2012, succeeding Philippe Taquet (France, INHIGEO president from 2004-2008) and preceding Kenneth L. Taylor (USA, INHIGEO president from 2012-2016). She concentrated her efforts as president of the commission upon widening participation by recruiting new members from countries not yet represented, engaging additional colleagues from countries already active, and establishing dialogue with other fields through the organization of joint meetings (Carneiro, 2008, p. 33). Figueirôa was INHIGEO's first and, as of 2025, only woman president.

Innovative Scholarship

Prof. Figueirôa's articles and abstracts include about 300 titles in several languages, especially Portuguese and English, which address an immense range of topics and deserve the continuing attention of scholars worldwide. Her articles have appeared in journals like *History and Technology*, *Earth Sciences History*, and *Notes and Records: The Royal Society Journal of the History of Science*. Two important books are monographs on the history of science in Brazil: *A Formação das Ciências Geológicas no Brasil: Uma História Social e Institucional* (1997); and a volume on the history of science in Latin America: *Um Olhar Sobre o Passado: História das Ciências na América Latina* (2000). One of her edited volumes, with Margaret Lopes, is *Geological Sciences in Latin America: Scientific Relations and Exchanges* (1995).

Challenging Colonial Narratives

Figueirôa's work in Brazilian geology challenged the contemporary center-to-periphery narratives of science in the colonies, and her work in this area has extended beyond the history of geology. She helped overturn George Basalla's (1928-2025, American historian of science) center-periphery model altogether.

At that time, some Argentinians, and Brazilians too, were founding the Latin America Society on the History of Science and Technology, trying to have a specific approach and methodology to deal with the history of science in Latin America and in peripheral countries. Because what we had, until then, was George Basalla's model. Very interesting, but it couldn't stand. It was not appropriate for the things that we found in archives and libraries. So, we had to build up our own methodology, our own epistemology. And that is pretty early, much before the fashion of global history. That is much more recent. And at the same time, many people, some French [scholars] from Équipe RHESEIS in France, attached to the CNRS and the Paris Diderot University, had people studying Islamic science, Arabian science, some studying Brazilian science, and Latin American science. So, we all got together. And that's the origin. Some Indians, too, from India, were working on that [topic]. We needed to prove our past is not the British past. We must understand our situation with empire, but also our past and our culture. And so, in 1990, this big group organized a symposium, an international one, called Science and Empires (Interview, 2025).

At the beginning of her research, she was urged to write on European figures like Lyell and Hutton. However, her experience working with the historical documents in the archive of the Institute of Geology of São Paulo helped her push back and demonstrate that Brazil had a well-established geological tradition and was an important, and sometimes transformative, site of geological research as far back as the 16th century. She has drawn attention to early figures who were previously overlooked, such as Charles Frederick Hartt (1840-1878), a North American geologist and paleontologist who worked in Brazil – Figueirôa and Bill Brice recently published his biography in 2024. Now, most scholars take for granted that Brazilian geology existed during the early modern period, but this was not the case when Figueirôa started out. She was part of a growing movement urging historians to rethink their understanding of science in colonial spaces, long before the consideration of science, colonialism, and empire became mainstream.

Historical Studies of Education in Geology

Additionally, she also developed the study of the history of geology education with articles examining how the teaching of geology has changed over time. Her work demonstrates that textbooks

...actually play a creative role in the development of a scientific discipline (Figueirôa, 2016a, p. 375)

and are therefore an essential source of study for any historian of the geosciences. This overturns the notion that textbooks are simply trickle-down compilations of the 'real' science being published in journals. Her work teaching students across several departments (STEM,

education, history) has helped her understand the importance of studying the transmission of scientific knowledge in the development of scientific disciplines. She describes her own work broadly as the history of the circulation of ideas and science.

I always focused on the exchange. Because it's not only that Germans and French and British and others came to Brazil bringing things. No. People here exchanged several things, like samples, but also ideas and books and papers. So, I think that the majority of my scientific production in the history of geology is about circulation. Even before this word was in fashion. But it's about that, exchanges [between many] countries and people... And so that's it. That's what I've been doing all this time. This is also a way to face the decolonial issue (Interview, 2025).

Studying the global circulation of geological knowledge helps challenge the unidirectional narratives of colonial science.

Figueirôa argues that grappling with the history of geology is important for all historians of science. As she says,

It's essential to have the taste of history (Interview, 2025)

referring not only to a taste for history in general, but to the understanding of sciences with historical methodologies.

We need to put this field in dialogue, in equal place with the history of physics, chemistry, biology, and other histories, because we have a lot to say. And it's very important for the planet, for our future (Interview, 2025).

She argues as well that the history of the philosophy of science is essential for all students studying science. She writes,

In addition to encouraging a critical view and making the thinking more malleable and able to accept contradictions, to showing that science did not develop by the pure and simple imposition of accepted truths as definitive over conceptions considered to be wrong, to enabling the identification of 'structuring concepts' of a specific content, philosophy and history may facilitate the appearance of innovation in science and in the geosciences, both through the introduction of methodological changes in our educational and professional practices, as well as through the understanding of insights, abductions or historically situated Gestalt changes (Figueirôa, 2017, p. 187).

Geoscience students in particular benefit from studying the history of geology because its methodology is rooted so heavily in historical thinking.

Conclusion

Kenneth L. Taylor succeeded Figueirôa as INHIGEO President in 2012. In a recent email, he remarks:

I first met Silvia at the 1987 INHIGEO meeting in Italy ('Pisa to Padua'). You could see right away she is bright and capable, highly



Figure 6. Ezio Vaccari (INHIGEO president since 2020), Silvia Figueirôa, Kenneth L. Taylor (INHIGEO president from 2012-2016 and Professor Emeritus at the University of Oklahoma). While Silvia was visiting the collections to conduct research, Ezio Vaccari arrived to honor Ken Taylor with the Vladimir V. Tikhomirov Medal from the IUGS, which has only been awarded four times. This picture was taken during the award ceremony. 18 September 2024. *History of Science Collections, University of Oklahoma Libraries. Photograph: Aja Tolman.*

personable. She also turns out to be well-organized and hard-working. It has been a pleasure knowing her as a colleague and friend for so many years.

Figueirôa is a pioneer in the fields of research she has studied. As the only historian of geology in Brazil for several years, her scholarship opened new areas of study and set a high standard. Her insistence on drawing attention to forgotten geologists, institutions, and fieldwork recentered South America in geological research. She brought attention to the importance of colonialism and science, and to the recognition that scientific exchange has often moved in directions contrary to the Eurocentric, center-to-periphery models that were generally accepted at the beginning of her career. Her work has helped give a voice and a place to underrepresented scientists, historians, and nations on an international scale.

Figueirôa's success is not due to independent financial resources. Nor does it reflect the prominence of her institutional position, as it was through her efforts that the Instituto Geológico of São Paulo was able to celebrate its centenary, and because of her accomplishments that the Institute of Geosciences (UNICAMP) became recognized as the center for the history of geology in Brazil. Ultimately, her success reflects universal recognition, as illustrated by the Mary C. Rabbitt Award from the Geological Society of America in 2024, that her scholarship is foundational for her subject areas. Her story also reflects the path of a tenacious fighter who never gave up against the odds of gender discrimination, geographical isolation from colleagues, and

nationwide financial collapse at the time she was completing her education. Instead, she forged a creative, innovative path into the fields of geoscience history and education. One outstanding feature of her career is that Figueirôa devoted a significant amount of effort, time, and resources to creating and maintaining international communities, societies, and institutions and mentoring younger scholars. These communities crossed disciplinary lines and included people from both the science and the humanities. Figueirôa's career is characterized, from the beginning to the present, by her extraordinary ability to bring people together and to establish collaborative relationships between people studying the geosciences. Whether in Brazil, in Latin America, or worldwide, IUGS INHIGEO played a crucial role in these efforts, giving Figueirôa the opportunities to exercise her resourceful, determined, and creative energy.

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