



# SOCIETY OF ECONOMIC GEOLOGISTS, INC.

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## Student Chapter Annual Report Cover Page

Submission Deadline: September 30th

Submit to: studentprograms@segweb.org

Month/Year Reported: From 01/2023 (mm/yyyy) – To 09/2023 (mm/yyyy)

STUDENT CHAPTER:

Check if update needed at segweb.org

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Chapter Executive Committee (in office during the time frame captured on this report) (type "Vacant" if position not filled):  
The new committee is reported on the Student Chapter Membership Information form (SCMIF).

President: Tiago Pedrosa Lyra tiago10lyra@gmail.com  
Name E-mail

VicePresident: Miguel Oliveira da Costa migueloliveiradacosta@gmail.com  
Name E-mail

Secretary: Isadora Bordignon Franz isadorabordignonfranz@gmail.com  
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Treasurer: Gustavo D'Amore Heer gustavod.aheer@gmail.com  
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Sponsoring Institution or Company(name): Rio Tinto



## Summary

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## **I. Introduction**

Created in April 2011, the Brasília Student Chapter or BRASC is located at the University of Brasília (UnB), Brazil, with the purpose to unite students, professors and industry professionals with the common interest in economic geology and related areas. In order to promote and share knowledge our student chapter often organizes lectures, debates, field trips, and motivates all members to take part in workshops and academic/industry debates and events.

For the year of 2023 we focused on our field trip to Carajás Mineral Province, which occurred in August. Our main activities were weekly meetings to discuss papers about Carajás and to organize the trip. We also had three courses about softwares used in geosciences and mining industry, and one lecture with a member from the Brazilian Geological Survey about the exploration history and tectonic evolution of the Carajás Province.

## **II. Brasília Student Chapter Committee and Members**

Since March 2023, the Committee is composed of the following members:

President - Tiago Pedrosa Lyra  
Vice - President - Miguel Oliveira da Costa  
Secretary - Isadora Bordignon Franz  
Treasurer - Gustavo D'Amore Heer

Other chapter members:

Angelica Maria Zapata-Montoya\*  
Caetano Rutsatz  
Cauê Oliveira Miranda\*  
Carlos Eduardo dos Reis Santos\*  
Gabriel Simões Ribeiro Guimarães  
Giovanna Soares Costa  
Heitor Augusto Bitencourt  
Humberto Alexandre de Paula Correia\*  
James Souza Jardim  
João Carlos Figueiredo\*  
Juliana Natal Berbert\*  
Luca de Moraes Ohashi  
Lucas Nunes Morais\*  
Luis Eduardo Marquis Pires\*  
Marãna Iasmim Novais Ventura\*  
Pedro de Moura Bernardino\*  
Teotônio Menezes Macedo\*  
Wdilson Cesar Guedes Frade\*

\*Members who are SEG student members.



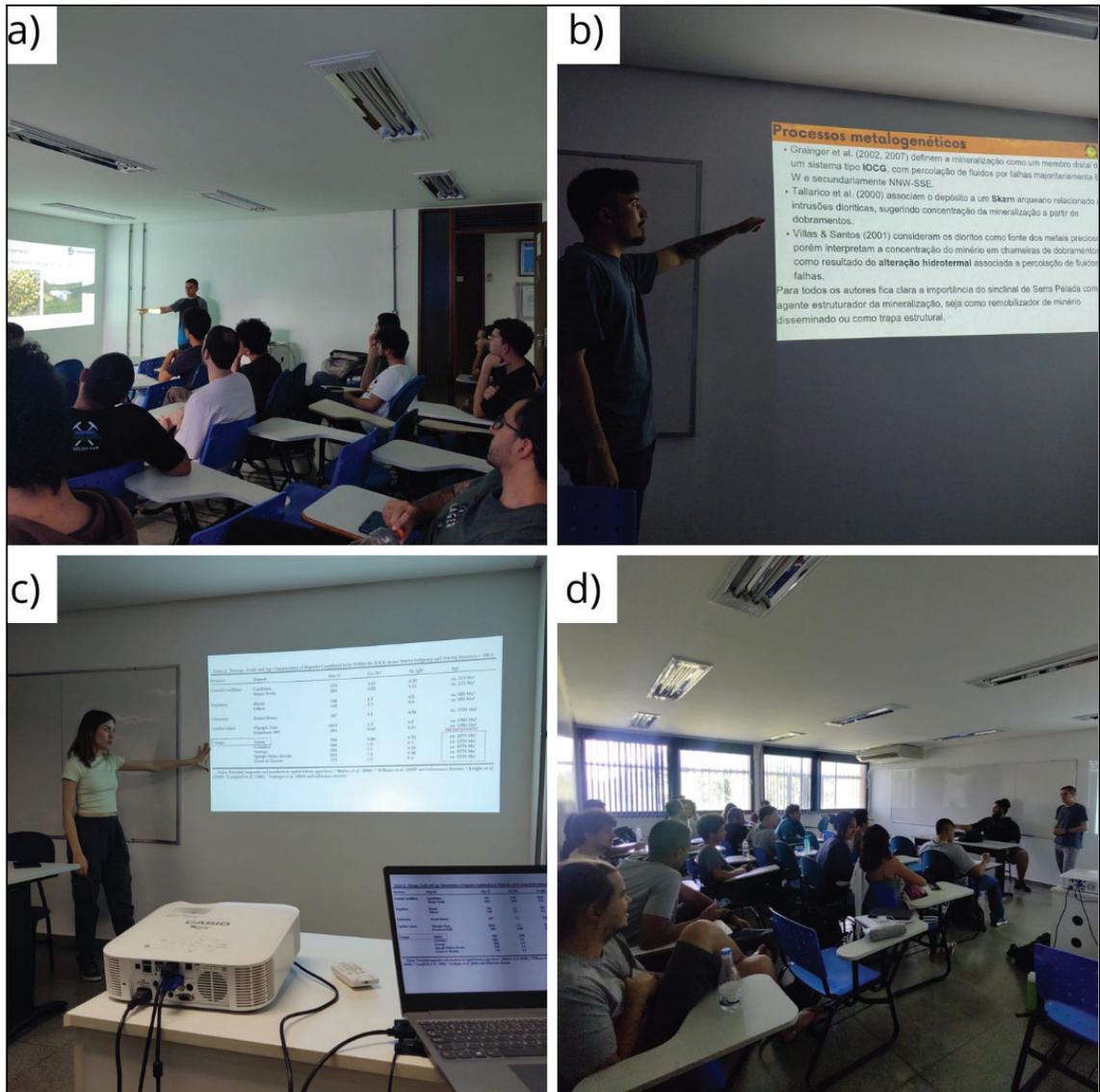
### III. Regular meetings and lectures

The chapter's general meetings during 2023 took place weekly, all in person. The meetings took place at the facilities of the Geosciences Institute of the University of Brasília (UnB), with the main objective of discussing the progress of the chapter's activities, planning and organizing the following objectives, discussing articles and presenting seminars (Figure 1). In addition to the general meetings, there were also weekly virtual meetings of the executive committee, aimed at strategic planning of the chapter, organization of general meetings, maintenance of cash flow, among other activities within its scope.

Considering that the focus of the activities carried out this year by BRASC was the “Carajás Project”, the central theme of the meetings and lectures were aspects related to the Mineral Province of Carajás. Also during the weekly meetings, the planning of the field trip to Carajás was worked on with the members, including construction of an itinerary, financial planning and maintaining relationships with companies, the Geosciences Institute, the Brazilian Society of Geology, among others.

In this scenario, a cycle of 8 internal lectures, or seminars, was held, accompanied by a discussion of related articles, promoted by chapter members. These meetings had as their theme the Chapada, Serra Norte, Serra Pelada, Luanga, Jaguar, Salobo, Sossego/Serqueirinho and Onça-Puma deposits, 7 of which are located in the Carajás Mineral Province and considered for field trip activities (Figure 1). The Chapada deposit, located in the Goiás Magmatic Arc, was added as an extra, considering the activities developed by UnB in the region.

Finally, two lectures were organized during the year. The first, promoted by Professor Dr. Cesar Fonseca Ferreira Filho, our Academic Advisor, had as its theme the genesis of the Luanga deposit, being offered internally to all members of the chapter. The second was open to the general public, taught by the Advisor of the Geology and Mineral Resources Directorate at the Geological Survey of Brazil (CPRM), Noevaldo Araújo Teixeira. This lecture had as its theme the "History of Knowledge of the Mineral Province of Carajás", with the participation of 72 listeners, including undergraduate and postgraduate students from the Institute of Geosciences, professors and former students (Figure 2). The lecture was followed by a moment of debate, doubts and exchange of experiences between participants.



**Figure 1:** a) Committee presenting the field trip project to chapter members; b) Member Wdilson presenting papers about the Serra Pelada (Au) Deposit; c) Presentation about the Salobo (Cu-Ag-PGE) Deposit, member Juliana; d) Members Heitor and Luca talking of Serra Norte (Fe) Deposit.



**Figure 2:** a) Noevaldo Teixeira from the Brazilian Geological Survey; b) Lecture attendants.

#### **IV. Field trips**

In the year 2023, BRASC conducted a field excursion to Carajás. In total, 14 individuals, including the board of directors and members, had the opportunity to participate. The fieldwork took place during August 12th to August 20th, in the context of the Carajás Mineral Province (CMP) in Pará, Brazil, one of the most important mining regions in Brazil and the world. It is associated with geologically significant aspects related to both metallogeny and the evolution of Brazilian and South American geology. In this setting, the main objectives of the excursion were to introduce the province's exposure and stimulate scientific discussions related to the CMP. Activities conducted on-site included visits to small scale and world class deposits, as detailed below (Figure 3).



Society of Economic Geologists (SEG)  
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The study region is globally renowned for its economic significance due to the diversity and volume of mineral deposits. The CMP hosts important deposits of iron, copper, gold, zinc, manganese, nickel, platinum group elements, rare earth elements, chromium, aluminum.

Our field itinerary was meticulously planned, taking into account all aspects of the journey. We embarked on our exciting excursion from Brasília, with the final destination being Marabá, in the state of Pará. To make the trip more comfortable, we decided to make a strategic stop in Palmas, Tocantins, where we would have spent the night. The plan was to continue the journey and visit the Luanga deposit, located near the town of Curionópolis.

However, an unexpected setback led us to reconsider our plans. Our vehicle experienced mechanical issues in Teresina de Goiás, on the very first day of the trip. This unforeseen circumstance forced us to deal with the situation and caused us to miss the first day of scheduled visits. Fortunately, the remainder of our itinerary proceeded as planned, allowing us to make the most of the visits to mineral deposits and the learning experiences that lay ahead. Thus, the excursion schedule can be summarized by Table 1.

**Table 1:** Schedule of activities for BRASC's excursion to Carajás.

| Day | Site Visit                                 | Overnight Stay       |
|-----|--|----------------------|
| 1   | Travel: Brasília - Teresina de Goiás       | Teresina de Goiás/GO |
| 2   | Travel: Teresina de Goiás - Parauapebas/PA | -                    |
| 3   | Travel: Teresina de Goiás - Parauapebas/PA | Parauapebas/PA       |
| 4   | Serra Norte (Fe) - Vale                    | Parauapebas/PA       |
| 5   | Salobo (Cu-Au-Ag) - Vale                   | Canaã dos Carajás/PA |
| 6   | DBENS Mineração (Cu-Au)                    | Tucumã/PA            |
| 7   | Jaguar (Ni) - Centaurus                    | Tucumã/PA            |
| 8   | Travel: Tucumã/PA - Natividade/TO          | Natividade/TO        |
| 9   | Arrival in Brasília                        |                      |



**Figure 3:** a) Group photo taken during the excursion at the Serra Norte iron deposit in Carajás. b) Rock samples in the Centaurus warehouse related to the Jaguar deposit. c) Discussion regarding the geological context of the CMP (Carajás Mineral Province). d) Beneficiation plant of DBENS Mining.

## V. Organization of short courses

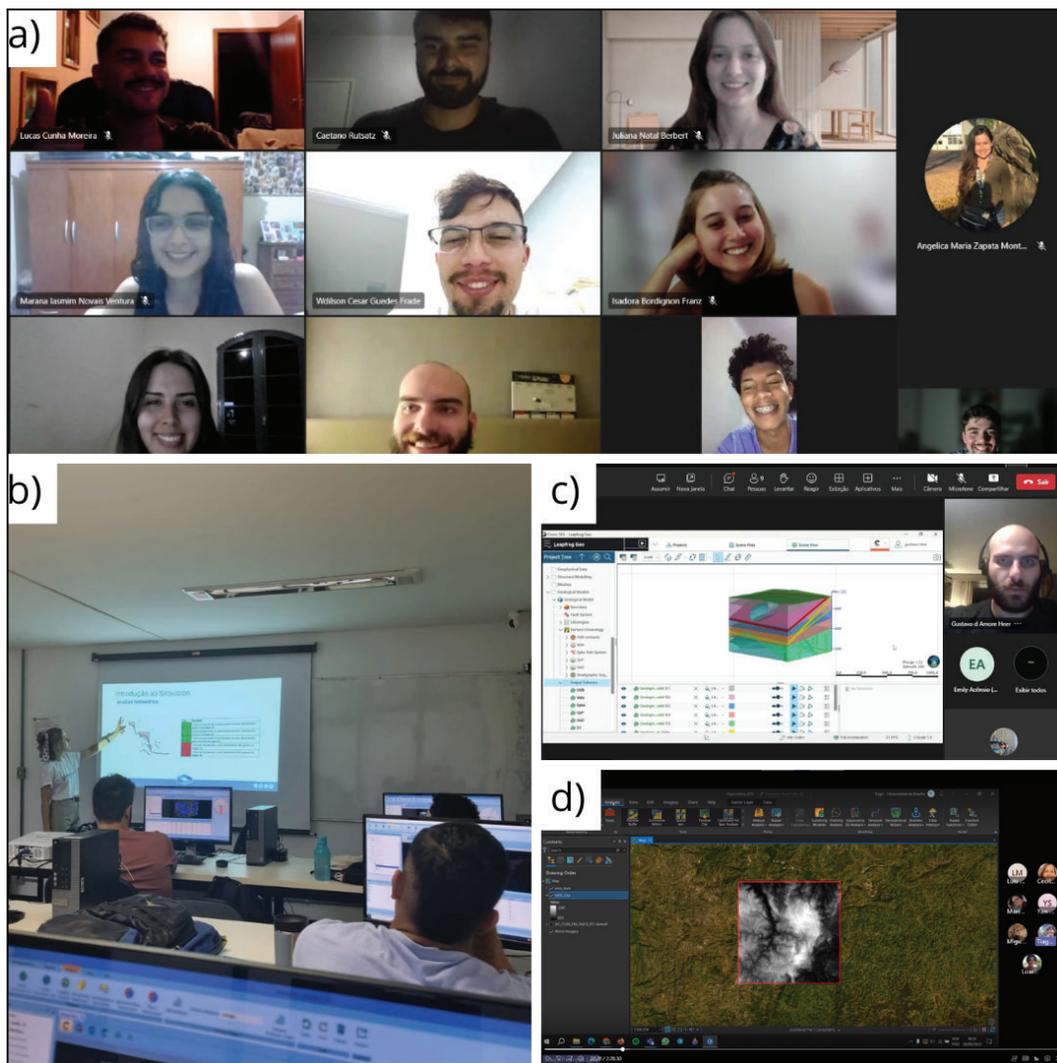
A technical course on the fundamentals of the Sirovision software, from Datamine, was offered free of charge to active members of the chapter, taught by monitor Isadora Franz, also a member of the chapter. The course lasted 6 hours, being taught on May 6, 2023, being an integral part of the Datamine Universities program (Figure 4b). Chapter members also had the opportunity to participate, at an exclusive price, in the Leapfrog course, offered by Seequent monitors and chapter members, Tiago Lyra and Gustavo Heer, as described in the following section.



## VI. Fundraising programs

The fundraising approach employed by the Brasília Student Chapter (BRASC) centered on the provision of geology-focused courses, encompassing cartographic mapping and geological modeling. The inaugural course offered by BRASC covered the fundamentals of ArcGIS Pro and garnered active participation from a group of five members, with more than 10 participants (Figure 4).

Subsequently, as part of the Students Associates program facilitated by Sequent, BRASC seized the opportunity to enhance our proficiency in the Leapfrog implicit modeling software. Following our immersion in this advanced training, we extended our knowledge-sharing endeavors by conducting a basic training course for undergraduate and postgraduate students at the University of Brasília and other institutions (Figure 4).



**Figure 4:** a) Participants in the basic Leapfrog course. b) Ongoing class of the Sirovision course, limited to BRASC members. c) Moment during the basic Leapfrog course. d) Moment during the basic ArcGIS Pro course.



## VII. Future Plans

At the time of writing this report, the chapter is in a moment of transition from the Carajás Project to a new focus, which will continue into the following year. Immediate plans for the end of 2023 include holding a lecture open to the UnB community, reporting on the activities developed during the field trip to Carajás, as well as inviting the public to participate in our upcoming activities. Furthermore, we intend to continue offering different courses to the community, as well as organizing an economic geology workshop at UnB, providing the geological community with a little more about the Carajás theme, including workshops on aspects we learned in the field, lectures by renowned professionals and, possibly, short courses and/or small field trips with themes of interest to the public. To end the year, we are in the process of opening a call for new candidates for the 2023 executive committee, so that we will continue with the election and co-management process until the end of 2023.

In the long term, planned activities include organizing a field trip project to Bahia in 2024, as decided together with members (Figure 5). The organization will begin in the current year, with continuation in the following year. Other future activities also include reviewing the chapter's internal management standards and planning work and activities for major events in 2024, such as SIMEXMIN and the Brazilian Geology Congress.



**Figure 5:** a) Members Juliana and Caetano presenting a field trip project to Bahia. b) Member Miguel presenting a field trip project to Quadrilátero - Minas Gerais.



### VIII. Financial breakdown

Tables 2 and 3 below presents BRASC's detailed cash flow in 2023 (considering until the end of September).

**Table 2:** Monthly financial statement of the chapter in 2023 (March to September).

| <b>MONTHLY SUMMARY</b> |                     |                     |                   |                   |
|------------------------|---------------------|---------------------|-------------------|-------------------|
| <b>MONTH</b>           | <b>INPUT</b>        | <b>OUTPUT</b>       | <b>INCOME</b>     | <b>BALANCE</b>    |
| <b>JANUARY</b>         | -                   | -                   | -                 | -                 |
| <b>FEBRUARY</b>        | -                   | -                   | -                 | -                 |
| <b>MARCH</b>           | R\$ 1.979,00        | R\$ 0,00            | R\$ 0,00          | R\$ 1.979,00      |
| <b>APRIL</b>           | R\$ 3.207,16        | R\$ 0,00            | R\$ 18,43         | R\$ 5.204,59      |
| <b>MAY</b>             | R\$ 0,00            | R\$ 0,00            | R\$ 64,91         | R\$ 5.269,50      |
| <b>JUNE</b>            | R\$ 0,00            | R\$ 0,00            | R\$ 43,98         | R\$ 5.313,48      |
| <b>JULY</b>            | R\$ 0,00            | R\$ 0,00            | R\$ 44,46         | R\$ 5.357,94      |
| <b>AUGUST</b>          | R\$ 1.892,00        | R\$ 6.855,00        | R\$ 16,06         | R\$ 411,00        |
| <b>SEPTEMBER</b>       | R\$ 75,00           | R\$ 0,00            | R\$ 1,21          | R\$ 487,21        |
| <b>OCTOBER</b>         |                     |                     |                   |                   |
| <b>NOVEMBER</b>        |                     |                     |                   |                   |
| <b>DECEMBER</b>        |                     |                     |                   |                   |
| <b>TOTAL</b>           | <b>R\$ 7.153,16</b> | <b>R\$ 6.855,00</b> | <b>R\$ 189,05</b> | <b>R\$ 487,21</b> |

