Structural analysis through field mapping and implications for metallogeny

2nd to 11th December 2024
Dakar & Bakel, Senegal

WAXI / Agate Project Training

This training course covers the techniques and methods of structural mapping and its contribution to understanding metallogeny.

This training encompasses the techniques and methodologies of structural mapping and its relevance in comprehending metallogeny. Participants will gain the knowledge and skills to effectively plan and conduct structural mapping exercises. They will be able to autonomously interpret and present the gathered data to construct a cohesive structural model.

Through examples, participants will also be trained to integrate structural geology into the modeling of metallogenic processes in general.

This ten-day training (including 2 travelling days to the field) is intended for geologists who want to:

- Expand their skills in conducting field mapping and use the collected data to perform structural analysis and generate comprehensive structural models,
- Improve their understanding of the implications of deformation processes and structures on mineralisation.

Programme

	Course elements / Strengths
Day 1 2 Dec Dakar	**Structural analysis in general** • Geometric, kinematic, and dynamic analysis. Examples of structural models. • LAB: Measuring orientation of structures -Stereographic projection techniques (Analyzing structural data).
Day 2 3 Dec	**Travelling to Bakel by private bus**
Day 3 to 6 4,5,6,7 Dec Bakel	**Structural mapping techniques on the field** • Presentation of the regional and local geological setting, • Semi-regional cross-section (60 km) of the Hercynian Belt of the Mauritanides (Bakel area). • Identification and interpretation of key structures in the field, • Relation between structures and mineralization (example of gold, copper, chromium), • Initiation of the use of practical GIS tools.
Days 7to 9 8,9,10 Dec Bakel	**Detailed mapping** Field mapping of perimeters assigned to each group (participants are subdivided in groups of 4).
Day 10 11 Dec	**Travelling back to Dakar / End of the training**

Comprehensive Training Coverage: The course covers a broad range of techniques and methodologies in structural mapping and its contribution to metallogeny. This ensures participants gain a thorough understanding of both theoretical and practical aspects.

Skill Development: Participants will acquire skills to effectively plan and conduct structural mapping exercises, interpret data autonomously, and construct cohesive structural models. Usually, exploration geologists are strong at identifying structure on the field (or even on cores) but lack skills to integrate and analyze them to produce a solid structural model at a given scale.

Integration of Structural Geology and Metallogeny: The training includes examples on integrating structural geology into metallogenic processes, which is crucial for understanding mineralization. It will help the participants to gain a solid comprehension of how structures play a major role conveying fluids and creating damage and dilation zones that allow the metal being transported to get settled.

Field Experience: Participants will gain hands-on experience through field mapping, which is essential for practical learning and application of skills. In addition the chosen area for the training is known for hosting well preserved exposure of different types of structures (from pure ductile structures of all types to brittle ones).

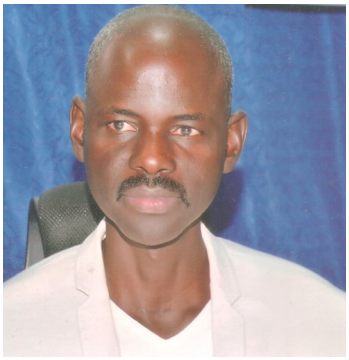
GIS and Technological Tools: Introduction to practical GIS tools and the use of MapInfo Discover or ArcGIS for map digitization, along with GPS Essentials for data acquisition, ensures participants are well-versed with modern technological tools. The training will show the partcipants how to make their marking easier and more accurate and how to facilitate the visualization and analysis of data.

Collaborative Learning: Participants work in groups for detailed mapping exercises, fostering teamwork and collaborative learning.

Course Leaders

All the instructors have experience in both mineral industry and academia.

Their expertise ensures a high-quality training



Prof. Mamadou Guéye, who holds a PhD in structural Geology from the University of Göttingen (Germany) and is currently working at the University Cheikh Anta Diop, will lead the training. Prof. Mamadou Guéye brings over 20 years of experience interpreting structural geology datasets from field mapping. He specialises in analysing the structure and geometry of structurally controlled mineralisation.

Pr Guéye will be assisted by:

Dr. Bocar Sy began his career by teaching in the geomatics certificate program at the University of Geneva for approximately ten years. Subsequently, at UAM, he took on the role of head of the geomatics program, where he developed course outlines and taught around ten GIS courses. These courses spanned a wide array of topics, including data acquisition and processing, mapping, and sharing. They also incorporated the latest advancements, such as story maps and dashboards.

Dr Cheikh Ibrahima Faye and Dr Ibrahima Dia worked for several years as exploration geologists before to their academic careers. Their teaching and research focus on fundamental and applied geology related to mineral resources. They have over 15 years of experience conducting geological mapping and integrating various datasets.

Information

Date:
2nd to 11th December 2024

Duration:
10 days including 2 days of travelling. Travelling from Dakar to Bakel takes one day each way.

Location:
Dakar and Bakel

Time:
From 9:00 to 17:00

Language:
French

Registation Fees:
Net price: USD 4,000 per attendee for WAXI sponsors and USD 4,500 per attendee for non-WAXI sponsors.
Price for companies subject to a withholding tax:

WAXI sponsors: USD 5,000 per attendee, non-WAXI sponsors USD 5,625 per attendee.
Price includes:

- Hotel in Dakar: 3 nights including breakfast and dinner.
- Hotel in Bakel: 8 nights including breakfast and dinner.
- Lunch during the sessions in Dakar, field, and road trip.
- Transport to Bakel and back to Dakar

Currency of invoice: AUD - Payment is required prior to the start of the training.

Registration dealine:
15th September 2024

Certificat of participation:
Particpants will receive their certificate at the end of the training course.

Requirements for attendees:
Participants can install MapInfo Discover or ArcGIS for map digitization. Additionally, they can install GPS Essentials on their mobile phones or tablets for data acquisition. Each participant must bring their own computer.
To bring:
GPS/compass (Silva)/10x magnifying glass, we can provide one if necessary.
Appropriate field trip clothing.
Small Bag pack for the field excursions.

Registration

AGATE PROJECT
Knowledge, Skills, Networks in Earth and Planetary Science

Structural analysis through field mapping and implications for metallogeny - 2nd to 11th December 2024

Registration deadline 15 September 2024

Please complete this form and email it to Corinne.Debat@agate-project.org

Company .....

Address .....

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Phone .....

Entity to invoice .....

Administrative Email contact .....

Attendee's Name 1.(first name and surname)

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Attendee's Name 2 (first name and surname)

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Attendee's Name 3.(first name and surname)

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Attendee's Name 4.(first name and surname)

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Total Registration Fees .....

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Price for companies subject to a withholding tax:

WAXI sponsors: USD 5,000 per attendee, non-WAXI sponsors USD 5,625 per attendee.

Currency of invoice: AUD

Payment is required prior to the start of the training.

The organisers reserve the right to cancel the training if the minimum requirement of 10 participants is not met. Maximum participants 15.