

# Mineral Systems and Metalogeny of the Birimian Craton and Applications for Exploration Targeting

## A regional to deposit scale perspective

**WAXI Training – 23 to 28 October 2017**  
**Ouagadougou, Burkina Faso**

**Organised by the University of Western Australia (UWA) and  
Teng Tuuma Geoservices**

**Registration Deadline 20 September 2017, send registration form to**

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Mineral deposits are the expression of multi-scale mineralising systems operating from the whole earth to deposit scales to focus mass and energy transfer, and ultimately large metal accumulations. In this course we introduce the concepts of mineral system and demonstrate how this approach may prove itself essential for the current and future challenges associated with mineral exploration across the various scale. Following this introduction to the mineral system we present the recent advances in the understanding of gold mineralisation in the South West African Craton through specific presentation on key deposits including: Sadiola, Siguiri, Obuasi deposits and Belahouro-Inata gold camp

This six day training course will provide hands on experience through a combination of practical classes as well as a field excursions. This course is organised by Nicolas Thébaud and Francois Mourou Ouedraogo who collectively have extensive experience in running multidisciplinary gold mineralisation studies across scale ranging from deposit through to regional scale, and is aimed at geologists wishing to improve their knowledge base on regional to deposit scale mineralisation control in the West African Craton as well as provide insights into world-class example of gold mineralisation. Presenting a multi-disciplinary dataset acquired through the WAXI research program this training course will explore the West African gold mineral system and focus on how first order dataset maybe incorporated to refine exploration strategies.



## Course Programme

Day	Date	Course Element	Lecturer
Day 1	Monday the 23rd of October 8:30	The gold mineral system: Introduction and regional scale perspectives	NT
	Monday the 23rd of October Afternoon → 17:00	<b>Practical (part 1):</b> Orogenic gold deposits in the West African Craton examples of the Siguiiri, Obuasi and Sadiola deposits (Mineralogy, structural framework) implication for exploration. (Collaborative case study)	NT
Day 2	Tuesday the 24th of October 8:30	Lecture 3: The gold mineral system: a deposit scale perspective Lecture 4: Gold deposits of the Birimian Craton: “differences and commonalities”	NT
	Tuesday the 24th of October Afternoon → 17:00	<b>Practical (part 2):</b> Orogenic gold deposits in the West African Craton examples of the Siguiiri, Obuasi and Sadiola deposits (Mineralogy, structural framework) implication for exploration. (Collaborative case study)	NT
Day 3	Wednesday the 25th of October 8:30	The Gaoua region, large mineral system: geology, structural frame and gold and copper-gold mineralisation exploration concept.	MO
	Wednesday the 25th of October Afternoon → 17:00	The Belahouro-Inata gold camp, regional and deposit scale geo-structural and mineralogy, implications to exploration.	MO
Day 4	Thursday the 26th of October all day 8:30 → 17:00	Exploration Targeting: The mineral system approach (Collaborative case study) <b>Practical (part 3)</b>	NT/MO
Day 5	Friday the 27th of October 8:30	Trip to Gaoua_Bâtie Visit of copper-gold project in afternoon with B2Gold	NT/MO
Day 6	Saturday the 28th of October 8:30	Visit of the Dano Project (Gryphon Minerals/Teranga Gold Inc.)	NT/MO
Day 7	Sunday the 29th of October 8:30	Return to Ouagadougou	

## **Course Content: Lectures**

**1 Introduction: Introduction to the “Mineral system approach”:** the notions of Architecture, Fertility and geodynamic trigger.

**2 The gold mineral system: from lithospheric scale to regional scale, the West African example.**

**3 The gold mineral system: a deposit scale perspective**

- Camp scale perspective: The Ashanti belt
- Ore shoot formation and near mine exploration

**4 The Gaoua region, large mineral system**

- regional and deposit scale geological framework
- gold and copper-gold mineralisation
- implications to exploration

**5 The Belahouro-Inata gold camp**

- regional and deposit scale geological framework
- structural controls
- mineralogy of ore mineral assemblage
- implications to exploration.

**Exploration Targeting practical (hands on application)**

- Exploration theories: the mineral system approach.
- Application to the West African example.

## **Course Content: Hands On Exercises**

**Collaborative Case Study 1: Regional exploration and camp scale selection.**

Targeting over the whole West African Craton.

**Collaborative Case Study 2: group evaluation and presentation of gold deposits in the West African craton, namely the Siguiri, the Sadiola and Obuasi, Yatela, Alamoutala, Bonikro deposits and many others. (multi-disciplinary study of the deposit (mineralogy, structural framework and alteration)**

**Collaborative Case Study 3: Exploration Targeting practical (hands on application)**

- Application of the mineral system approach to target for camp scale targets in the West African craton.

**Field excursion.**

### **Training staff**

The following personnel will be involved in the delivery of the courses.

<b>Name</b>	<b>Institution</b>
Nicolas Thebaud	UWA
Francois Morou Ouedraogo	Teng Tuuma Geoservices

The courses will be provided in both English and French, according to the native language of the presenter, however several of the training personnel are bilingual.

## **Registration Fees**

**US\$2,300** per attendee for WAXI Members and **US\$2,750** for Non-Members for the full 6 days of training, including training materials.

This includes the following costs:

<b>Items</b>
Lunchtime Meals
Training Materials

This does not include:

<b>Items</b>
Evening Meals
Accommodation (but we will help in organising group accommodation for participants if needed)
Flights to and from Ouagadougou

For those attendees who would like us to help with accommodation in Ouagadougou, please contact Corinne Debat ([corinne.debat@uwa.edu.au](mailto:corinne.debat@uwa.edu.au)) so that we can discuss your needs.