







4th Colloquium of the International Geoscience Programme (IGCP638) in Algeria

Algiers, October 28th - 29th, 2019
University of Algiers USTHB
Followed by a field trip, Oct. 30th - Nov. 2nd

Geodynamics and Mineralizations of Paleoproterozoic formations for a sustainable development

Sponsored by UNESCO and organized by :

- The Algerian Geological Survey Agency (ASGA)
- The Ministry of Industry and Mines
- The Ministry of Higher Education and Scientific Research

PARTNERS





IGCP638 Leaders:

Tahar AÏFA / University of Rennes 1 (France)
Moussa DABO / FST / University Cheikh Anta Diop of Dakar (Senegal)
Karima TAFER / ASGA (Algeria)

http://igcp638.univ-rennes1.fr

INTRODUCTION

The fourth symposium of the IGCP638 on the geodynamics and mineralizations of the West African Craton (WAC), will take place on October 28th - November 2nd, 2019 in Algeria.

It will join together the international scientific community (professionals of the academic and mining sectors) on the topic: "Geology of the Paleoproterozoic formations for a sustainable development". The event will proceed in the form of conferences (two days) in Algiers (USTHB) and of field trips (four days) according to the schedule indicated below. The sets of themes of the conference will relate to geodynamics, mineralizations, geochemistry, geochronology, geophysics, mapping, lithology, sedimentology, imagery, environment (pollution and deforestation related to mines) and other related subjects.

The events and targets are: (i) generate active exchanges between the actors of the field (enquiring, expert mining); (ii) produce scientific knowledge on the geology of the WAC for an update of the academic and school programmes and facilitate mining exploration; (iii) reinforce the capacity of the participants on the field methods of the Paleoproterozoic (Birimian) basement geology by the means of field trips (possible sampling of specimens).

COMMITTEES

LOCAL ORGANIZING COMMITTEE

Amar Cherigui (ASGA, Algiers, Algeria)	Karima Tafer (ASGA, Algiers, Algeria): President
Djamel Lamaouche (ASGA, Algiers, Algeria)	Atika Ferhoum (ASGA, Algiers, Algeria)
Arezki Zerrouki (ASGA, Algiers, Algeria)	

INTERNATIONAL SCIENTIFIC COMMITTEE

Abdeslam Abtout (CRAAG Algiers, Algeria)	Fernand Kouamé (UFHB, UFR STRM, Ivory Coast)
Tahar Aïfa (Univ. Rennes 1, France): President	Rabah Laouar (Univ. Annaba, Algeria)
Djamel-Eddine Aïssa (USTHB Algiers, Algeria)	Jean-Pierre Lefort (Univ. Rennes 1, France)
Laurent Ameglio (GyroLAG Potchefstroom, RSA/Perth, Australia)	Ulf Linnemann (Univ. Dresden, Germany)
Etienne Assié (SODEMI Abidjan, Ivory Coast)	Khalidou Lo (Univ. Nouakchott, Mauritania)
Kamel Amri (USTHB Algiers, Algeria)	Martin Lompo (Univ. Ouagadougou, Burkina Faso)
Lahssen Baidder (UH2C Casablanca, Morocco)	Saïd Maouche (CRAAG Algiers, Algeria)
David Baratoux (IRD/GET France)	Henrique Masquelin (Univ. Montevideo, Uruguay)
Lenka Baratoux (IRD/GET France)	Sharad Master (Univ. Witwatersrand, Johannesburg, RSA)
Fernando Bea (Univ. Granada, Spain)	Nacer Merabet (CRAAG Algiers, Algeria)
Hanafi Benali (USTHB Algiers, Algeria)	André Michard (UPS Orsay, France)
Abderrahmane Bendaoud (USTHB Algiers, Algeria)	Yves Missenard (UPS Orsay, France)
Miloud Benhamou (Univ. Oran, Algeria)	Sylvain Mondé (UFHB, UFR STRM, Ivory Coast)
Mohamed-Cherif Berguig (USTHB Algiers, Algeria)	Pilar G. Montero (Univ. of Granada, Spain)
Tayeb Bouima (IAST-UFA Sétif, Algeria)	Khadidja Ouzegane (USTHB Algiers, Algeria)
Abdelhak Boutaleb (USTHB Algiers, Algeria)	Séta Naba (Univ. Ouagadougou, Burkina Faso)
Moulay Charaf Chabou (IAST-UFA Sétif, Algeria)	Papa Malick Ngom (UCAD, Senegal)
Amar Cherigui (ASGA, Algiers, Algeria)	Gbèlè Ouattara (ESMG Yamoussoukro, Ivory Coast)
Yacouba Coulibaly (UFHB, UFR STRM, Ivory Coast)	Cees Passchier (Univ. Mainz, Germany)
Moussa Dabo (UCAD, Senegal)	Abdelkader Saadallah (Saadgeo Stavanger, Norway)
Edjikémé Emeruwa (UFHB, UFR STRM, Ivory Coast)	Omar Saddiqi (FSAC UH2C Casablanca, Morocco)
El-Hocine Fettous (USTHB Algiers, Algeria)	Raphaël Sarr (Univ. UCAD, Senegal)
Denis Gapais (Univ. Rennes 1, France)	Bernhard Schulz (Univ. Freiberg, Germany)
Mohamed Ghanmi (Univ. Tunis El Manar, Tunisia)	Nagnin Soro (UFHB, UFR STRM, Ivory Coast)
Mohamed-Said Guettouche (USTHB Algiers, Algeria)	Karima Tafer (ASGA, Algiers, Algeria)
Mamadou Guèye (Univ. UCAD, Senegal)	Marieke Van Lichtervelde (IRD, IFAN, France)
Mohamed Hamoudi (USTHB Algiers, Algeria)h2c	Ousmane Wane (Univ. Bamako, Mali)
Dalila Hammor (Univ. Annaba, Algeria)	Alphonse Yao (ESMG Yamoussoukro, Ivory Coast)
Moha Ikenne (Univ. Agadir, Morocco)	Albert Kouamé Yao (UFHB, UFR STRM, Ivory Coast)
Omar Kolli (USTHB Algiers, Algeria)	Nasreddine Youbi (UCA Marrakech, Morocco)
Alain Kouamelan (UFHB, UFR STRM, Ivory Coast)	Arezki Zerrouki (ASGA, Algiers, Algeria)
ACCA Assessed Continuously and HALC'S FOMO Fools On the	and a Mineral de la Orala da EQUADA Fara Hr. da a Origina a Alla Obrada OFT

ASGA: Agence du Service Géologique de l'Algérie, ESMG: Ecole Supérieure des Mines et de la Géologie, FSAC: Faculté des Sciences Aïn Chock, GET: Géosciences Environnement Toulouse, IFAN: Institut Fondamental d'Afrique noire, IRD: Institut de Recherche pour le Développement, SODEMI: Société pour le Développement Minier de la Côte d'Ivoire, UCA: Université Cadi Ayyad, UCAD: Université Cheikh Anta Diop de Dakar, USTHB: Université des Sciences et de la Technologie Houari Bournediene, UFHB: Université Félix Houphouët-Boigny, UFR STRM: Unité de formation et de Recherche des Sciences de la Terre et des Ressources Minières, UH2C: Université Hassan II Casablanca

DATES

Publication of the 2nd circular: July-August 2019

Session submission deadline: July 31st, 2019 postponed to September 1st, 2019 Abstract submission deadline: July 31st, 2019 postponed to September 1st, 2019

Publication of the final circular: September 10th, 2019 Notification of accepted abstracts: September 15th, 2019

Payment fees: on site at the Conference

Confirmation deadline to attend the meeting: September 30th, 2019

CONFERENCE PROGRAMME

Registration and reception: October 28th, 2019 Talks and plenaries: October 28th–29th, 2019 Scientific sessions: October 28th–29th, 2019 Field trip: October 30th – November 2st, 2019

REGISTRATION

Online registration is open till July 31st, 2019. The registration form is available on the Website (https://igcp638.univ-rennes1.fr/) to page of events (Abstracts): (i) register online before (ii) sending your abstract online as well. A receipt will be sent to you automatically.

Registration fees

Category	Fees (us \$)	Remarks
	Colloqui	um
Academic	400 - 0 *	The fees will be adjusted in the final circular depending on sponsors financial support
Other professionals	120 us \$ *	
Student	14000 DA**	
	Field tri	ip
Academic		The number of places is limited to 50.
Other professionals	- 275 us \$ *	Participation is on a first come, first served.
Student	33000 DA**	

NB: 1 € ~ 135 DA, 1 us \$ ~ 120 DA

Registrations are open online (https://igcp638.univ-rennes1.fr/).

- (i) The registration fees cover the following services:
- Conference materials and/or field trip (abstracts and/or field trip guide booklet)
- (ii) The registration fees for the field trip cover the following services:
- Transportation
- Accommodation
- Food services

NB: The Steering Committee will support the transport for the field trip and also plan to support the accommodation of some participants, in particular PhD students.

Accommodation and food services (apart from the first two days of the conference) are the responsibility of the participant.

OFFICIAL CEREMONY

Under the chairwomanship of her Excellency the Minister of Industry and Mines Allocutions of:

- President of the organizing committee (ASGA)
- Her Excellency the Minister of Industry and Mines
- His Excellency the Minister of Higher Education and Scientific Research

PLENARIES

Expected topics of potential invited keynote speakers, selected for the plenary meeting of 20-30 mn each, including presentation and discussion, will be given in the 2nd circular. Some of the titles could be provisional

Plenaries	Conference titles	Speakers	Conveners
1	Mineral exploration in Algeria: current state and perspectives	Pr. D.E. Aïssa ¹	in progress
2	Mineral resources in Algeria	Dr. A. Zerrouki ²	in progress
3	REE-rich minerals in Paleoproterozoic carbonatites from Ihouhaouene - Hoggar	Pr. K. Ouzegane ¹	in progress
4	Synthesis of Pb-Zn ore deposits north of Algeria	Pr. A. Boutaleb1	in progress
5	Two contrasting sources for base-metal mineralization in northeast Algeria: Evidence from fluid inclusion and stable isotope studies	Pr. R. Laouar ³	in progress
6	Iron mines in Algeria	Dr. M.I. Mouzaïa ⁴	in progress
7	Mineral potentiality of the Eglab	Dr. C. Taylor ⁵	in progress
8	Geology of North Algeria and related mineralizations	Pr. C. Chabou ⁶	in progress
9	The main mineralizations within the Hoggar	Pr. O. Kolli ¹	in progress

¹USTHB: Université des Sciences et de la Technologie Houari Boumediene, Algiers, ²ASGA: Agence du Service Géologique de l'Algérie, ³Université de Annaba, ⁴SOMIFER: Société des Mines de Fer d'Algérie, ⁵USGS: United States Geological Survey, ⁶Université de Sétif.

ORAL COMMUNICATIONS & POSTERS

The oral and poster sessions are focused on the following sub-topics:

- (1) Mineral resources and sustainable development.
- (2) Tectono-structural constrains, geological events, fluid inclusions, metamorphism, geochemistry and geochronology of Paleoproterozoic terrains.
- (3) Hydrogeology and environment for a sustainable and drinking water.
- (4) Geophysical exploration and mineral resources.
- (5) Education and policies in Earth sciences.
- (6) Chronostratigraphy, sedimentology and stratigraphy of the Precambrian.
- (7) Geopark, geotourism and geo-ethics for promotion of Earth heritage.

The sub-topics may have several subjects.

SUBMISSION OF ABSTRACTS

All the abstracts will be examined by the scientific committee of the IGCP638 and the authors whose abstracts are accepted will be advised. The abstracts will be accepted for an oral or a poster presentation and the authors are enjoined to indicate the preference at the time of the presentation. The abstracts must be submitted only online using the Word format, the procedure to follow is indicated on the Website (https://igcp638.univ-rennes1.fr/) to the page of events (Abstracts). Before submitting your abstract, you refer to the format suggested to apply absolutely (https://igcp638.univ-rennes1.fr/) on the Website.

The Abstract submission deadline is July 31st, 2019 postponed to September 1st, 2019.

Acceptance will be decided on **September 15th**, **2019**.

NB: PhD students having the best abstracts will be sponsored to attend the event (according to the cash in hand).

GRANT APPLICATION

Some IRD grants are available for MSc & PhD students. The selection of applications is conditioned by "best Abstracts" submitted in due time (see the mandatory conditions: grant application).

EXHIBITIONS

The exhibitions will offer a single occasion of networking for the geoscientists to meet the representatives of the Research institutes and companies. It will also allow the companies to conclude marketing, the development of the business and recruitment. The exhibitions will be open throughout all conference. The potential exhibitors must contact the secretariat of the conference by E-mail at: igcp638@univ-rennes1.fr

FIELD TRIP

The post-conference field trip (October 30th – November 2nd, 2019) will be held according to the program below: The main aim, with the help of some specialists of this area, is to allow the participants:

- (i) examine and discuss together some key outcrops for the understanding the lithology and the geodynamics in relationship with mineralizations,
- (ii) visit operating mines within the area of Sétif: iron of Djebel Anini, lead-zinc deposits of Boukhdima, and Chaâbet El Hamra zinc mine [dinner and overnight at El Bachir Hotel, Sétif].

(iii) Visit of the roman ruins and roman city of Djemila (close to Sétif), then departure to Guelma. A visit to the archaeological site of Aïn Boucherit (near El Eulma and close to Ain Hanech site), called the Cradle of Humankind following the discovery of lithic tools in cut stones and fossil bones of animals going back 2.4 million years, could also be on the programme (see e.g. reference below) [dinner and overnight at Bouchahrine complex, Guelma]. (iv) discover a wide variety of geological facies of the mineralized rocks within basins, thermal places (Guelma area) related to recent tectonic activities where several exploited ore deposits can be distinguished. (a) The station of Hammam Debbagh thermal spring (Guelma area) will be visited. It shows an active thermal source on top of a faulting system, with output water temperatures ranging between 89°C and 98°C indicating a high thermal gradient. Such water contains sodium chloride and calcium sulfate, and may also contain very low amount of radon and arsenic. However the discussion will be open and will focus on the formation of travertines which are cross-cut by several faults and fractures oriented in close relationship with the stress regime changes of North Africa during Mio-Plio-Quaternary. (b) Outcrops of the Kabyle Basement with its suite of metamorphic core complex, and numerous deposits of Paleozoic and Mesozoic ages within Annaba area will be visited [dinner and overnight at Bouchahrine complex, Guelma].

(v) On the way back to Algiers before night, numerous deposits of Paleozoic and Mesozoic ages will be visited. The discussions may continue till Algiers.

Tourism: While being at the vicinity of the rich Roman ruins and <u>ancient roman city of Djemila</u> (near Sétif), we will take this opportunity to make a detailed visit of ruins and examine the geological outcrops around, A visit to the Archaeological site of <u>Aïn Boucherit</u> (near El Eulma and close to <u>Ain Hanech</u> site), called the Cradle

of Humankind following the 2018 discovery of lithic tools in cut stones and fossil bones of animals going back <u>2.4</u> million years, could also be on the programme.

Visit of Algiers and its surrounding area

Tourism: Possible individual or group visits of Bay of Algiers, <u>Bardo</u> & <u>National Fine Arts</u> Museums, <u>Casbah</u>

List and route of field trip

Field trips	Routes	Coordinators
Paleozoic-Mesozoic Formations: from Algiers to the Tunisian border i.e. Algiers / Sétif / Guelma / Annaba (Oct. 30 th - Nov. 2 nd)	Geo-cross section: (i) visit of operating mines within the area of Sétif: iron ore deposits of Djebel Anini, lead-zinc deposits of Boukhdima, and Chaâbet El Hamra zinc mine. Geological facies of the mineralized rocks within basins, Hammam Debbagh thermal spring (Guelma area). (ii) outcrops of the Kabyle Basement with its suite of metamorphic core complex Tourism: Roman ruins and ancient roman city of Djemila, Possible visit to the archaeological site of Aïn Boucherit	M. Zerrouki (ASGA), M. Boutaleb (USTHB, Algiers), M. Chabou (Univ Sétif), M. Mouzaia (Ferphos Co.), M. Laouar (Univ Annaba)
Possible Tourism: Algiers area (1 day)	Bay of Algiers, Bardo & Fine Arts Museums, Casbah	In progress

SPONSORS

The organisers are willing to receive sponsorship of specific events for the Colloquium. This will include the technical sessions, workshops, conference materials, field trips, etc.

LIST OF HOTELS

(Booking 2 or 3 nights according to arrival: Oct. 27th to Oct. 30th and after the field trip). Group booking at <u>IBIS</u> <u>Hotel</u> of Algiers or another hotel close to the Airport can be made with advantage prices. However, a detailed list of hotels will be given in the last circular. The best for the participants is to be all together in the same hotel for transport facilities till the conference place.

VISA

For participants needing a visa to enter in Algeria, they should first register and send their abstract using the igcp638 website. <u>VISA files</u>: In order to establish the invitation letters (i) to facilitate the processing of visa files at Embassies of Algeria, or (ii) to get grants from your institutions [e.g. travel expenses to attend the 4th IGCP638 meeting], please send the following information to <u>ASGA</u>: 1- affiliation (institution) full address; 2- country of origin; 3- position; 4- copy of passport (n°)

PUBLICATION

A special issue will be published

Deadline for submitting articles ("proceedings") for the special issue of the *Geological Survey of Algeria Bulletin*: October 15th, 2019! information on the following link Bulletin ASGA

PARTICIPANT FLIGHT PLAN (Participants from abroad)

Name – SURNAME / E-mail
Institution
Date, time of arrival in Algeria and Airline Company
Date, time of departure from Algeria and Airline Company
Hotel (or other place) during your stay in Algeria
Your participation
*Colloquium and 4-days field trip *Colloquium and 1-day field trip
*Colloquium only
*4-days field trip only

IMPORTANT!

Please copy both the E-mail addresses below and paste them into your E-mail box. Then send this PARTICIPANT FLIGHT PLAN after filling it.

igcp638@univ-rennes1.fr atika.ferhoum@asga.dz