

**2<sup>nd</sup> Colloquium of the International Geoscience Programme  
(IGCP638)  
Casablanca, Morocco**

**7-12 November 2017**

**Place: Conference Hall of the University Library Mohammed Sekkat**

**Theme :**  
**Geodynamics and mineralizations of Paleoproterozoic formations  
for a sustainable development**

**Sponsored by UNESCO and organized by :**  
**The University Hassan II of Casablanca Faculty of Sciences Aïn Chock**

**SPONSORS AND PARTNERS**



Royaume du Maroc



Ministère de l'Énergie,  
des Mines et du  
Développement Durable



Académie Hassan II des  
Sciences et techniques



**IGCP638 Leaders:**

**Tahar AÏFA / Université de Rennes 1 (France)**

**Moussa DABO / Université Cheikh Anta Diop de Dakar (Senegal)**

**Omar SADDIQI / Université Hassan II de Casablanca (Morocco)**

**<http://igcp638.univ-rennes1.fr>**

## INTRODUCTION

The Second symposium of the **IGCP638** on *geodynamics and mineralizations* within the West African Craton (WAC) will take place in Casablanca on **November 7-12, 2017**.

It will join together the international scientific community (professionals and academics) working on the geology of the old formations (Paleoproterozoic) for two (2) days conference and four (4) days field trip. Indeed, one of the working privileged sites for the study of geodynamics in relation to mineralizations of the Precambrian, is the Paleoproterozoic (Birimian) province of Northwest Africa. It represents one of the most vast orogenic areas of the planet. For this IGCP project, the sets of themes by focusing on mineralizations will relate to geodynamics, geochemistry, geochronology, geophysics, cartography, lithology, sedimentology, imagery, water and environment (pollution and deforestation linked to mines), and other relevant subjects.

The objectives are to: (i) create a framework of active exchanges between the actors of the field (researchers from academic and mining co., administration); (ii) upgrade and product of scientific knowledge for the update of scholar and high school programs in term of geology of the WAC and facilitate mining exploration; (iii) reinforce the capacity of the participants on the geology of the Moroccan Precambrian basement by means of a 4 days field trip (with possible rock sampling).

For more information, please visit the website <http://igcp638.univ-rennes1.fr>

## COMMITTEES

### LOCAL ORGANIZING COMMITTEE

|  |
|--|
| Omar Saddiqi (FSAC UH2C Casablanca): <b>Chairman</b> |
| Lahssen Baidder (FSAC UH2C Casablanca)               |
| EL Hassan El Arabi (FSAC UH2C Casablanca)            |
| Aboubaker Farah (FSAC UH2C Casablanca)               |
| Faouziya Haissen (FSAC FSBM Casablanca)              |
| Atika Hilali (FSAC UH2C Casablanca)                  |
| Abdelhadi Kaoukaya (FSAC UH2C Casablanca)            |
| Mehdi Mansour (FSAC UH2C Casablanca)                 |
| Mostafa Oukassou (FSAC UH2C Casablanca)              |
| Hassan Rhinane (FSAC UH2C Casablanca)                |

### INTERNATIONAL SCIENTIFIC COMMITTEE

|   |  |
|---|--|
| Tahar Aïfa (Univ. Rennes 1, France)                             | Alain Kouamelan (Univ. Abidjan, Ivory Coast)     |
| Mohammed Aïssa (UMS Meknès, Morocco)                            | Théophile Lasm (Univ. Abidjan, Ivory Coast)      |
| Laurent Ameglio (GyroLAG Potchefstroom, RSA / Perth, Australia) | Jean-Pierre Lefort (Univ. Rennes 1, France)      |
| Addi Azza (Adviser MEMDD <sup>1</sup> , Rabat, Morocco)         | Ulf Linnemann (Unv. Dresden, Germany)            |
| David Baratoux (IRD/UPS/IFAN, France)                           | Khalidou Lo (Univ. Nouakchott, Mauritania)       |
| Lenka Baratoux (IRD/IFAN, France)                               | Martin Lompo (Univ. Ouagadougou, Burkina Faso)   |
| Jocelyn Barbarand (UPS Orsay, France)                           | Lhou Maacha (Managem, Casablanca, Morocco)       |
| Fernando Bea (Univ. Granada, Spain)                             | Younes Maamar (Managem, Casablanca, Morocco)     |
| Miloud Benhamou (Univ. Oran, Algeria)                           | Henrique Masquelin (Univ. Montevideo, Uruguay)   |
| Mohammed Bouabdellah (UMP Oujda, Morocco)                       | Sharad Master (Univ. Johannesburg, South Africa) |
| Jean-Louis Boudinier (Univ. Montpellier, France)                | Nacer Merabet (CRAAG Algiers, Algeria)           |
| Renaud Caby (Univ. Montpellier, France)                         | André Michard (UPS Orsay, France)                |
| Hasna Chennaoui (UH2C Casablanca, Morocco)                      | Yves Missenard (UPS Orsay, France)               |
| Yacouba Coulibaly (Univ. Abidjan, Ivory Coast)                  | Pilar G. Montero (Univ. Granada, Spain)          |
| Moussa Dabo (Univ. UCAD, Senegal)                               | Séta Naba (Univ. Ouagadougou, Burkina Faso)      |
| Bachir Diouf (Univ. UCAD, Senegal)                              | Papa Malick Ngom (Univ. UCAD, Senegal)           |

|  |  |
|--|--|
| Hassan El Hadi (UH2C Casablanca, Morocco)                                  | Aziouz Ouabadi (USTHB Algiers, Algeria)          |
| Ahmed El Hassani (Academy Hassan II Sciences & Technology, Rabat, Morocco) | Hassan Ouanaimi (UCA Marrakech, Morocco)         |
| Nasser Ennih (UCD El Jadida, Morocco)                                      | Cees Passchier (Univ. Mainz, Germany)            |
| Abderrahmane Essaïfi (Univ. Marrakech, Morocco)                            | Toufik Remmal (UH2C Casablanca, Morocco)         |
| Ezzoura Errami (UCD El Jadida, Morocco)                                    | Abdelkader Saadallah (Saadgeo Stavanger, Norway) |
| Mamadou Fall (FST, Univ. UCAD, Senegal)                                    | Omar Saddiqi (UH2C, Casablanca, Morocco)         |
| Sérigne Faye (Univ. UCAD, Senegal)   | Raphaël Sarr (Univ. UCAD, Senegal)               |
| Abdelilah Fekkak (UCD, El Jadida, Morocco)                                 | Bernhard Schulz (Univ. Freiberg, Germany)        |
| Denis Gapais (Univ. Rennes 1, France)                                      | Ulf Söderlund (Univ. Lund, Sweden)               |
| Dominique Gasquet (Univ. Savoie, France)                                   | Abderrahman Soulaïmani (UCA Marrakech, Morocco)  |
| Ouattara Gbélé (Univ. Yamoussoukro, Ivory Coast)                           | Marieke Van Lichtervelde (IRD, IFAN, France)     |
| Mamadou Guèye (Univ. UCAD, Senegal)  | Ousmane Wane (Univ. Bamako, Mali)                |
| Faouziya Haissen (UH2C Casablanca, Morocco)                                | Nasreddine Youbi (UCA Marrakech, Morocco)        |
| Moha Ikenne (Univ. Agadir, Morocco)  | Samir Zouhri (UH2C Casablanca, Morocco)          |

<sup>1</sup>Ministry of Energy, Mines and Sustainable Development

## DATES

Abstract submission deadline: [september 30<sup>th</sup>, 2017](#)

Notification of accepted abstracts: [october 7<sup>th</sup>, 2017](#)

Publication of the final circular : [october 15<sup>th</sup>, 2017](#)

Payment fees: [on site at the Conference or online](#)

Bank transfer deadline: [October 20<sup>th</sup>, 2017](#)

## CONFERENCE PROGRAMME (provisional)

| <b>Tuesday November 7<sup>th</sup>, 2017</b>   |   |
|--|---|
| 08h00-09h30                                    | Welcome & Registration of the participants        |
| 09h30-10h30                                    | Opening ceremony, introductory talks, allocutions |
| 10h30-10h45                                    | Coffee break, posters session 1                   |
| 10h45-11h15                                    | Conference 1                                      |
| 11h15-13h00                                    | Oral communications                               |
| 13h00-14h30                                    | Lunch   |
| 14h30-15h00                                    | Conference 2                                      |
| 15h00-16h30                                    | Oral communications                               |
| 16h30-16h45                                    | Coffee break, posters session 2                   |
| 16h45-17h15                                    | Conference 3                                      |
| 17h50-18h30                                    | Oral communications                               |
| <b>Wednesday November 8<sup>th</sup>, 2017</b> |   |
| 08h30-09h00                                    | Conference 4                                      |
| 09h00-10h30                                    | Oral communications                               |
| 10h30-10h45                                    | Coffee break, posters session 3                   |
| 10h45-11h15                                    | Conference 5                                      |
| 11h15-13h00                                    | Oral communications                               |
| 13h00-14h30                                    | Lunch   |
| 14h30-15h00                                    | Conference 6                                      |
| 15h00-16h30                                    | Oral communications                               |
| 16h30-16h45                                    | Coffee break, posters session 4                   |
| 16h45-18h00                                    | Oral communications                               |
| 18h00-18h30                                    | Round Table & closure of the Conference           |

## PLENARIES (Provisional List)

Eight topics were selected for the plenary meeting of 30 mn each, including presentation and discussion.

| Conference titles   | Speakers   | Conveners         |
|---|--|-------------------|
| The Precambrian basement of Morocco (Sahara, Anti-Atlas and Meseta): a review   | Pr. André Michard, Univ. Paris XI, Orsay           | Pr. O. Saddiqi    |
| Les perspectives de l'exploration minière au Maroc  | Dr. Addi Azza, Adviser MEMDD <sup>1</sup> , Rabat  | Pr. T. Aïfa       |
| La Meseta au Paléozoïque: un terrain vagabond ou la marge fragmentée de l'Anti-Atlas ?  | Pr. Hassan Ouanaimi, Univ. Cadi Ayyad, Marrakech   | Pr. A. Soulaïmani |
| Signatures pétrographique et géochimique des formations paléoprotérozoïques du Degré Carré de Massigui (Mali méridional) : implications géodynamiques | Dr. Ousmane Wane, Univ. Bamako                     | Dr. M. Dabo       |
| Les modèles de développement minier de MANAGEM  | Dr. Lhou Maacha, MANAGEM, Morocco                  | Pr. M. Aïssa      |
| Evolution des marges atlantiques marocaine et mauritanienne depuis le stade de rifting à l'Actuel   | Pr. Mohammed Hafid, Univ. Ibn Tofail, Kénitra      | Pr. H. El Arabi   |
| Precambrian Large Igneous Provinces of Morocco: The record preserved in regional dyke swarms  | Pr. Nassreddine Youbi, Univ. Cadi Ayyad, Marrakech | Pr. A. Tahiri     |
| Evolution structurale des formations paléoprotérozoïques de la boutonnière de Kédougou-Kéniéba, Sénégal oriental                                      | Dr. M. Dabo, Univ. Cheikh Anta Diop, Dakar         | Pr. A. El Hassani |

<sup>1</sup>Ministry of Energy, Mines and Sustainable Development

## REGISTRATION

Registration is open online until **September 30<sup>th</sup>, 2017**. Registration form is available on the website (<https://igcp638.univ-rennes1.fr/>) at the **Abstracts** section: (i) fulfill online the *Registration form*, then (ii) submit your abstract (*Abstract submission*) according to the "Template" format. A receipt confirmation of delivery will be automatically sent to you.

### Registration fees

| Category     | Fees (€)   |
|--------------|------------|
| Academic     | <b>80</b>  |
| Professional | <b>250</b> |
| Student      | <b>40</b>  |

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

The registration fee covers only the following services:

- Participation to colloquium
- Conference materials (abstracts booklet)
- Coffee breaks and Breakfasts

The transfer of the registration fees from abroad should correspond to the following bank information :

Bank account : WACMA1

IBAN: MA 64 007 780 0000 48 1000 30563910

SWIFT-CODE: BCM AM AMC XXX

## THEMES OF THE COLLOQUIUM

- Paleoproterozoic (WAC, Anti-Atlas,...)
- Pan-African (West Africa, North Gondwana)
- Paleozoic (WAC and adjacent regions)

- Mesozoic-Cenozoic (Atlantic rifting and margin evolution)
- Mineral Resources and Metallogeny
- Magmatism, metamorphism and geochemistry
- Mines and Environnement
- Exploration geophysics
- Hydrogeology
- Geochronology and Low temperature Thermochronology
- Chronostratigraphy, sedimentology and Paleontology
- GIS and Teledetection
- Geopark, Geotourism and Geo-ethics

### 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 (**Abstract Template**) on the Website: <https://igcp638.univ-rennes1.fr/index.php/abstracts>

The Abstract submission deadline is **September 30<sup>th</sup>, 2017**.

Acceptance will be decided on **October 7<sup>th</sup>, 2017**.

**NB** : The researchers at the beginning of career having the best abstracts will be sponsored to attend the event (according to the cash in hand).

### GRANTS

Some IRD grants are available for MSc and PhD students (refer to the website for more information).

### FIELD TRIP

**Coordinators** : Pr. Omar SADDIQL ; Pr. Lahssen BAIDDER ; Pr. Hassan OUANAIMI.

The post-conference field trip will be held in the south of Morocco from 9 to 12 November 2017.

*4 days field trip along with a transect on the **Anti-Atlas Paleoproterozoic Formations**, a possible quick crossing along the High-Atlas, and several visits of mineralized outcrops and mines.*

#### Field trip Fees

| Participants | Tarifs (€) | Remarks   |
|--------------|------------|---|
| Academic     | <b>300</b> | <i>The number of places is limited to 20. Participation is on a first come, first served.</i> |
| Student      | <b>150</b> |   |
| Professional | <b>600</b> |   |

South of Morocco is one of the most attractive tourist areas with diversified landscapes of mountains covered with snow towards the desert plains. The High-Atlas with its 3000 to 4000 meters constitutes a major climatic barrier with the disturbances of the Atlantic, which represent the arid climate of the sub-Saharan field of the Anti-Atlas in the south of the chain. These areas are occupied by Berber populations which have a long tradition of hospitality.

The route of the excursion follows most tourist roads marked by exceptional outcrops illustrating a transect through the High-Atlas and the central Anti-Atlas mountain ranges (Figure 1), which corresponds to the external domain of the Hercynian chain (Variscan, Alleghanian), and which also includes broad inliers dominated by Panafrican terranes. The High-Atlas was formed during the Cenozoic one to the detriment of an aborted Triassic-Jurassic fracture. Consequently, three superimposed Wilsonian cycles can be illustrated during this field trip. The route will make it possible to illustrate the complex geological history of these zones. Our objective is to present and discuss the various regional characteristics and sets of themes (sedimentological, structural, magmatic, metamorphic, metallogenic,...), which allowed the recording of the principal geodynamic events during this long geological history. Splendid minerals (erhyrite, vanadinite,...) and fossils (trilobites, goniatites,...) can be bought at several places.

During this excursion, the loop Ouarzazate - Bou Azzer - Tazenakht - Ouarzazate makes it possible to the participants to discover the Panafrican chain (the domain of external platform, the ophiolitic suture zone of Bou Azzer, the early volcanoclastic cover sequence [late Neoproterozoic] and the folded Paleozoic sediments [Cambrian and Ordovician]).

*A detailed guide-booklet will be provided with GPS positioning of each stop. The sampling of rocks is authorized.*

### Structural evolution of the High Atlas/Anti-Atlas Domains: An overview

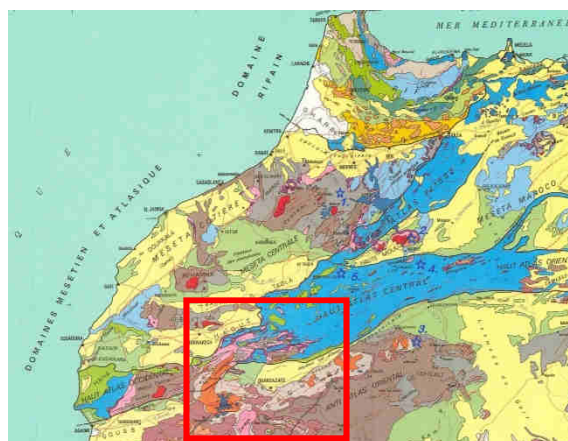
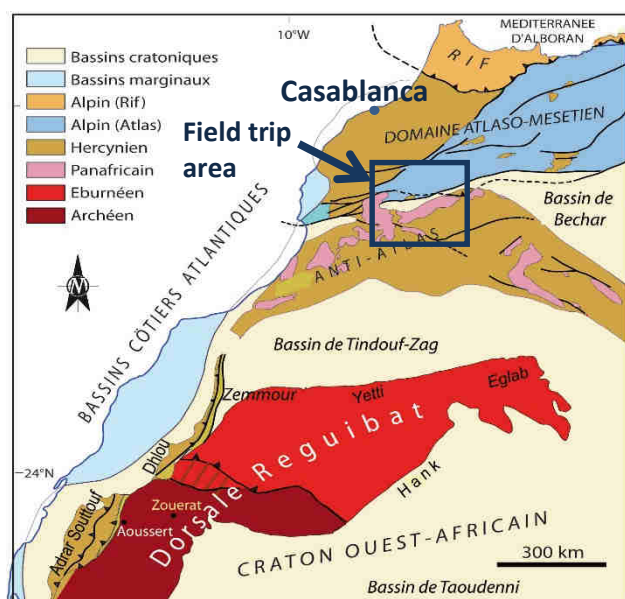


Figure 1 : Structural domains of Morocco with the field trip area (framed)

*Paleoproterozoic and Eburnean orogeny  
Neoproterozoic and Pan-African orogeny  
Paleozoic and Variscan orogeny  
Mesozoic and the central Atlantic opening  
Cenozoic and Atlasic deformation*

### Itinerary and Stops

**Day 1 (J1): Casablanca-Marrakech: The coastal block with the phosphates plateaus and Hercynian massifs of Rehamna and Jebilet. Visit of Guemassa polymetallic mine (MANAGEM Group)**

**Day 2 (J2): Marrakech-Ouarzazate via Tizi n'Tichka: The Marrakech High Atlas (Ouzellarh Block)**  
*Stop J2.1: The north Sub-Atlasic zone at Aït Ourir; Triassic basalts Liassic- Turonian series*

- Stop J2.2: North Sub-Atlasic zone (continuation); the Cretaceous-Eocene sequence*
- Stop J2.3: Oued Rdat overall panorama, Triassic Oukaimeden sandstones*
- Stop J2.4: Tazlida Precambrian basement*
- Stop J2.5: "Ouarzazate 97 km": Ordovician slump beds and Bou Ourhioul panorama*
- Stop J2.6: Agdal Tichka: Middle Cambrian unconformity upon Upper Neoproterozoic rhyolites*
- Stop J2.7: Tichka Pass panorama*
- Stop J2.8: Telouet crossroad; South Atlas Fault, Mesozoic-Cenozoic cover*
- Stop J2.9: Aguelmous-Agouim: the Tiourjaldal basalt sequence*
- Stop J2.10: Imini fault-ramp fold, Cretaceous transgression and Mn mine*

### **Day 3 (J3): Ouarzazate-Tazenakht-Ouarzazate: Proterozoic basement and Paleozoic cover of the Central Anti-Atlas**

- Stop J3.1: Panorama High-Atlas/Anti-Atlas, Late Proterozoic ignimbrite (Ouarzazate Group OG)*
- Stop J3.2: Contact Adoudounien/OG*
- Stop J3.3: Quartzites saghro Group (SG), Pan-African deformation*
- Stop J3.4: Zenaga Paleoproterozoic schists*
- Stop J3.5: Tazenakht 2 Ga old granite, OG/Eburnean unconformity*
- Stop J3.6: Transgression Adoudounian limestones/OG*
- Stop J3.7: Quartz-diorite SG west of Bou Azzer, Adoudounian unconformity*
- Stop J3.8: Bou Azzer ophiolite complex*
- Stop J3.9: Foug Zguid 200 Ma old dolerite mega-dyke*
- Stop J3.10: Bleida 580 Ma old granodiorite*

### **Day 4 (J4): Ouarzazate-Demnat-Casablanca: High-Atlas crossing and its Precambrian basement**

- Stop J4.1: The road to the north offers a gorgeous panorama on the South Atlas Front*
- Stop J4.2: The Skoura inlier with post-Pan-African angular unconformity*
- Stop J4.3: Landscapes on the Mesozoic cover (CAMP basalts and Liassic carbonates). The Ait Tamlil village is built on allochthonous Devonian shales and limestones*
- Stop J4.4: A thick Visean turbiditic complex associated with the Devonian nappes*
- Stop J4.5: The folded/faulted Mesozoic cover offers a famous site with dinosaur foot prints*
- Stop J4.6: The Imi n'Ifri touristic waterfalls overhang the Demnat town.*

### **Back way to Casablanca**

#### **Accommodation in Casablanca during the meeting**

Every participant has to book for his/her accommodation. There are no housing opportunities for public campus, however a private dormitory for students or passengers, located on the same boulevard Sekkat Library (about 300 m along the El Jadida street) offers reasonable prices: (i) about 20 €/day in double room, (ii) about 30 €/day in single room.

It should just be specified at the time of booking that it is for the congress organized by the "Faculty of Science Ain Chock".

Website : <http://baytalmaarif.ma>

Contact : Mr. Khalid ATIF, Head of Residence

Route El Jadida

Tel : 00212 5 22 23 31 89

Mobile : 00212 6 61 08 49 83

Fax : 00212 5 22 23 58 56

E-mail : [bamcasa@dyaralmadina.ma](mailto:bamcasa@dyaralmadina.ma)

Notice that there are obviously all the offers on [booking.com](http://booking.com) with a Tramway line linking the city center to the Congress site (Sekkat Library).