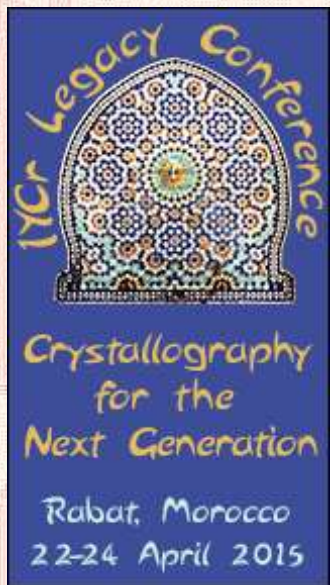


# Activities in Tunisia and the NACC<sub>2</sub>



University of Tunis El manar



Laboratory of Materials and Crystallography



Faculty of sciences of Tunis



The situation in Tunisia...



**Bizerte (1SC, 1P)**

**Pr. M. Rezaigui (Chemistry) 12p**

Phosphates Organics

**Pr. L. Smiri (Chemistry) 6p**

Minerals-Nano

**Tunis (1SC, 1P)**

**Pr. F. Zid (Chemistry) 40p**

Inorganics Hybrids Organics

**Monastir (1SC, 1P)**

**Pr M. Ben Amara (Chemistry) 5p**

Iron Rare earth Phosphates

**Pr. H. Nasri (Chemistry) 10p**

Coordination chemistry

**Sfax (1SC, 1P)**

**Pr. A. Ben Salah (Chemistry) 15p**

Organics-Hybrids-Phosphates

**Pr T. Mhiri (Chemistry) 12p**

Minerals-Phosphates

**SC : Single Crystal diffractometer**

**P: Powder Diffraction**

Roughly **12** Tunisian crystallographic **teams** composed by nearly **100 researchers** tried to contribute by some scientific actions in spite of the unfavorable political and social climate in this period in Tunisia.



## Scientific association in Tunisia...

On the other hand, a couple of scientific organization are mainly active in the solid state field and follow the IYCr2014 program :



### **The Chemical Tunisian Society (SCT)**

Non profit-seeking association since **1978** with around **650 members**, abstracted journal ...

<http://www.sctunisie.org/>

### **The Tunisian Crystallographic Association (TCA)**

Created in **2004** with about **150 members**...

<http://www.tunicrystals.org/>



Five interesting events were already organized in Tunisia since the end of 2013:



## Recent events related to the IYCr2014 in Tunisia

### 6<sup>èmes</sup> Journées de Chimie de l'Etat Solide JCS2013 16<sup>th</sup> December 2013 Hammamet



المجعية الكيميائية التونسية

6<sup>èmes</sup> Journées de Chimie de l'Etat Solide  
**JCS 2013**

16 - 18 Décembre 2013  
Hôtel Laico \*\*\*\*\*  
Yasmine Hammamet, TUNISIE



Pour vous inscrire, visitez :  
[www.sctunisie.org](http://www.sctunisie.org)



Participant:	<b>320</b>
From:	<b>Tunisia, Algeria, France</b>
Conference :	<b>10</b>
Oral :	<b>87</b>
Posters :	<b>157</b>




## Rietveld Refinement of diffraction patterns

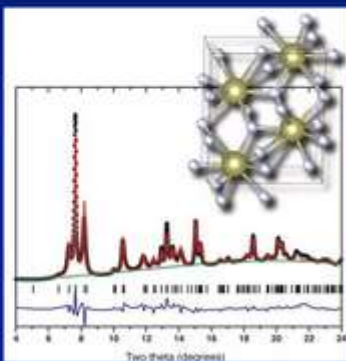
20<sup>th</sup> – 22<sup>nd</sup> March 2014 Sousse

The workshop aims at covering **both** the **theoretical** and **practical** aspects of the refinement of crystalline structures of synthetic and natural materials by the Rietveld method, starting from powder X-ray diffraction patterns.

Designed for Master students, PhD students, academic and industrial researchers.



Workshop on  
RIETVELD REFINEMENT  
OF DIFFRACTION PATTERNS



Sousse, Tunisia  
20- 22 March 2014

Participant: **30**  
From: **Tunisia**  
**Algeria**  
Course : **7**  
Oral : **0**  
Posters : **25**

Used software:

- **GSAS**
- **Fullprof**
- **TOPAS**





## Recent events related to the IUCr2014 in Tunisia



## 4<sup>th</sup> Tunisian Crystallographic Meeting TCM4 2<sup>nd</sup> - 5<sup>th</sup> Nov 2014 Djerba



To celebrate the International Year of Crystallography 2014, the conference was opened by a plenary lecture on "The International Year of Crystallography 2014: its achievements and legacy", given by Dr. Michele Zema, Project Manager for IYCr2014 at the IUCr.

Participant:	<b>70</b>
From:	<b>Tunisia, Algeria, France</b>
Conference :	<b>6</b>
Oral :	<b>25</b>
Posters :	<b>50</b>



## Recent events related to the IUCr2014 in Tunisia

### 18<sup>èmes</sup> Journées Nationales de Chimie 21<sup>st</sup> – 23<sup>rd</sup> December 2014 Monastir

The opening conference was presented by Dr M. Zema  
*Chemistry and crystallography: Our enduring common journey*



Participant: **400**  
From: **Tunisia, Algeria, France**  
Conference : **6**  
Oral : **150**  
Posters : **230**



incoming events related to the IUCr 2014 in Tunisia

Actually, four important events are expected:

## The Bruker Tunisian OpenLab Travelling Lab



### Single Crystal and Powder X-ray Diffraction



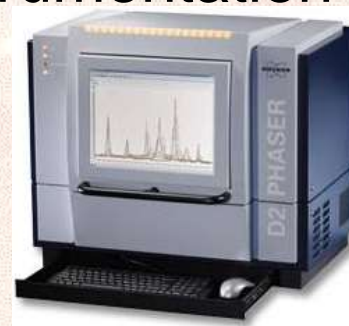
- Monastir 14<sup>th</sup>-17<sup>th</sup> May 2015
- Nabeul 20<sup>th</sup>-23<sup>rd</sup> May 2015

Bruker portable instrumentation :

**X2S**  
**single-crystal**  
**diffractometer**



&



**D2 Phaser**  
**Powder**  
**diffractometer**

Roughly 30 participants for each venue are now accepted.

Theoretical and practical sessions are programmed in the workshops



Following the PAN African Summit meeting, a growing interest in developing crystallography in the African region is emerging.



**2<sup>nd</sup> North African Crystallographic Conference (NACC2)**  
**2<sup>nd</sup> - 5<sup>th</sup> Nov 2015 Nabeul** <http://nacc2.com/>

**Chair: Habib Boughzala**  
**IUCr delegate: Michele Zema**



**NACC2** aims at **analyzing the state-of-the-art** of crystallography in **North Africa** and revitalizing it by involving **European countries** from the Mediterranean area with a **strong and established tradition** in crystallography.

**NACC2** also aims at reinforcing the **collaborations** among the North African countries and at continuing the process towards the foundation of the **African Crystallographic Association (AfCA)** by establishing the **role of North African countries** to facilitate this initiative, together with representatives from all parts of Africa.





## 2<sup>nd</sup> North African Crystallographic Conference (NACC2)

2<sup>nd</sup> - 5<sup>th</sup> Nov 2015 Nabeul <http://nacc2.com/>

Waiting the IUCr sponsorship ...

Sponsors confirmed so far:



### INVITED SPEAKERS

**Frédéric Vellieux**, Institut de Biologie Structurale Grenoble, France.  
*Protein crystallography and the design of mutant proteins*

**Habib Nasri**, Faculty of Sciences Monastir, Tunisia.  
*Porphyrins Complexes : Colour of Life*

**Habib Batis**, Faculté des Sciences de Tunis, Tunisia.  
*ABO<sub>3</sub> perovskite-type oxides: bulk and surface properties*

**Claude Lecomte**, University of Nancy, France.  
*Experimental Charge Density in 2015*

**Santiago Garcia-Granda**, University of Oviedo, Spain.  
*A controlled pressure/temperature set-up for synchrotron in situ studies of solid-gas processes and reactions*

**Gilberto Artioli**, Università degli Studi di Padova, Italy  
*The future of cement: Cements for the future*

**Djamel Baradai**, University of Sciences and Technology Houari Boumediene, Algiers, Algeria.  
*Crystallographic texture of severely versus conventionally deformed alloys.*

**NACC2** 2<sup>nd</sup> North African Crystallographic Conference

NOVEMBER 2<sup>nd</sup> - 5<sup>th</sup>, 2015  
KAHYEM GARDEN HOTEL \*\*\*\*\*  
NABEUL - TUNISIA

Logos: IUCr, 2014, LMC

- ### CONFERENCE TOPICS
- 1-Chemical crystallography
  - 2- Macromolecular crystallography
  - 3- Inorganic materials
  - 4- Cements
  - 5- Organic-inorganic hybrid materials
  - 6- Complex metallic alloys
  - 7- Powder diffraction and its applications
  - 8- Thin films
  - 9- Nanostructured materials
  - 10- Phosphates



incoming events related to the solid state in Tunisia

**Société Chimique de Tunisie**  
المجعية الكيمياءية التونسية

**ROYAL SOCIETY OF CHEMISTRY**  
*In collaboration with*

**1st Tunisian Chemical Society Conference on Coordination Chemistry**  
8-10 May 2015, Hammamet, Tunisia

For more information and registration visit:  
**www.sctunisie.org**

Deadline for electronic registration  
**24 March 2015**

ATIC  
nanoTAT

8<sup>th</sup> – 10<sup>th</sup> May 2015  
Hammamet, Tunisia

[www.sctunisie.org/1stjcc](http://www.sctunisie.org/1stjcc)

**Expected ...**

Participant: **200**  
From: **Tunisia (50)**  
**Algeria (20)**  
**France (17)**  
**& 25 other nationalities**

Conference : **8**  
Oral : **50**  
Posters : **100**





The poster for the 7th International Solid State Chemistry Conference (ISSCCG 2015) features a blue background with a coastal scene at the bottom. At the top left is the logo of the Tunisian Chemical Society (SOCIÉTÉ CHIMIQUE DE TUNISIE) with its name in Arabic. The main title 'ISSCCG 2015' is in large, gold, 3D-style letters. Below it, '7th International Solid State Chemistry Conference' is written in blue, with a sun icon over the word 'International'. A red '7th' is also present. Text indicates the dates '21-23 December 2015' and location 'Eden Star Hotel, Zarzis'. A QR code and registration deadline '30 September 2015' are included. The website 'www.sctunisie.org' is prominently displayed. Logos of sponsors like VWR Tunisie and Institut Français Tunisie are at the bottom.

**ISSCCG 2015**  
**7<sup>th</sup> International Solid State Chemistry Conference**  
21-23 December 2015  
Eden Star Hotel, Zarzis  
Registration deadline  
**30 September 2015**  
More informations on  
**www.sctunisie.org**

21<sup>th</sup> – 23<sup>rd</sup> December 2015  
Zarzis (south Tunisia)

[www.sctunisie.org](http://www.sctunisie.org)

### Expected ...

Participant:	<b>400</b>
From:	<b>Tunisia, Algeria, France</b>
Conference :	<b>10</b>
Oral :	<b>100</b>
Posters :	<b>200</b>



## Tunisian researchers outside Tunisia

Some of the Tunisian crystallographer or researchers involved in the solid state field participate to north African, African, or European crystallographic events on the fringe of the IYCr2014 (Crystallographic Schools, Open Labs Morocco, Pan African and South African meeting on Crystallography, Open Factory, workshops, etc...).

5 Young researchers were in PAVIA



A. Bouhassine  
M. Mghandef  
T. Rhaïem  
S. Mokaddem  
R. Dridi

2 Young Researchers were in Agadir



M. Touati  
M. Chouri

2 researchers were in Grenoble / Darmstadt



1 researcher was in Bloemfontein South Africa

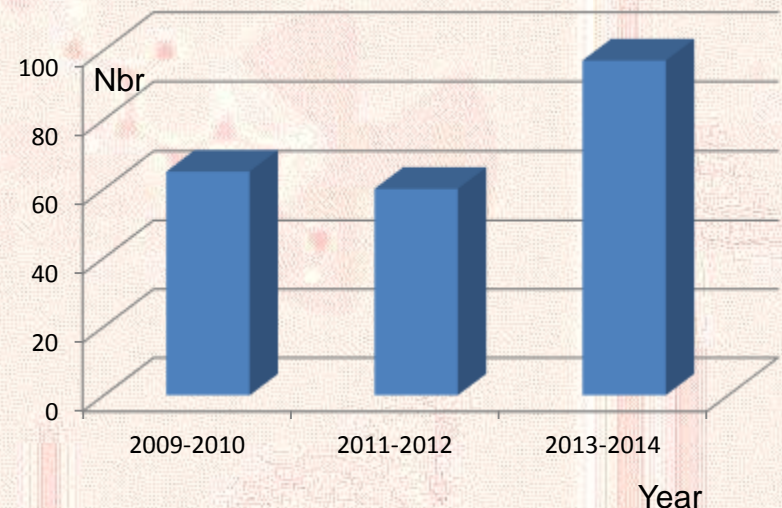
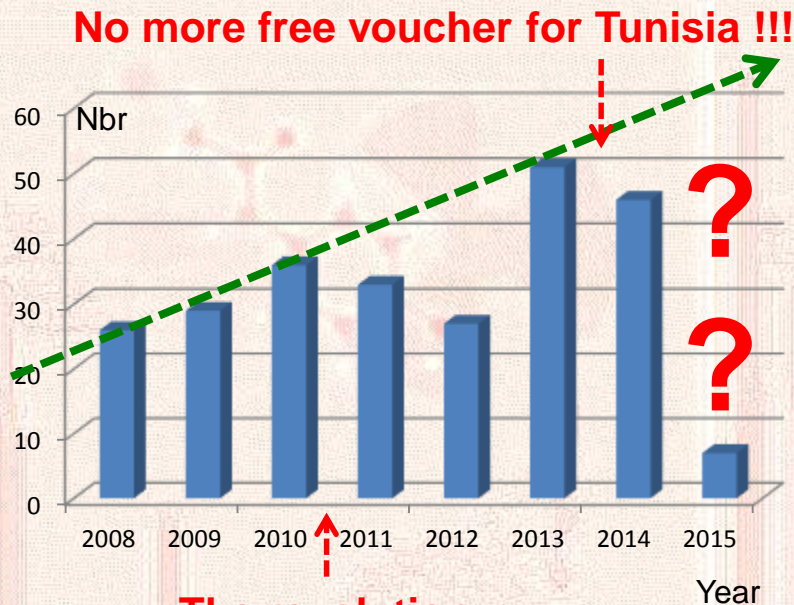




## Quantitative Analysis of the Tunisian output

- Increasing qualitatively and quantitatively the scientific output
- Facilitate the researchers' mobility
- Realizing Intercontinental researchers contact
- Installing traditions of cooperation and scientific discussion
- Improving the methods

## Tunisian output in the IUCr Journals





The IYCr2014 is continuing ... is a challenge ...

## Two questions to ask:

1- What we have to leave for the next generations ?

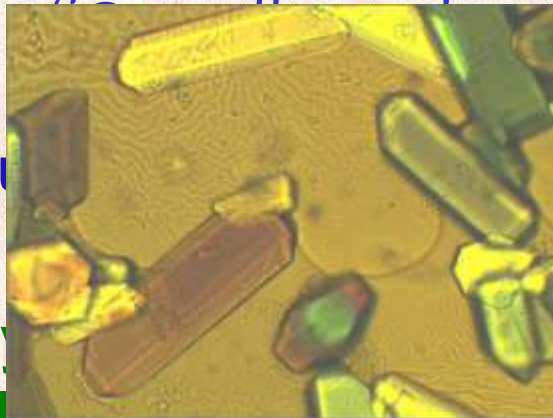
The **know-how**

2- What we have to do to keep / improve the scientific level ?

The **scientific honesty**

Doing things well and **perfectly**





**Now, Protein crystallography does not exist in Tunisia !!!**

## What we have to do ?

### Tunisian level:

- 1- Convince politicians and authorities to invest in crystallography ...
- 2- Involve more confirmed young Tunisian crystallographer ...
- 3- The ATC must be a member of the IUCr ...

### African level:

- 4- Create the North African Crystallographic Association...

### word level:

- 5- Increase the efficiency of the role of the IUCr and other associations...
- 6- Create a Mediterannean Crystallographic Authority...



# Congratulations...

Establishment of an **African Crystallographic Association (AfCA)**.

**International Council of Scientific Unions / International Council for Science**

<http://www.iycr2014.org/home/news/iucr-awarded-icsu-grant>



## IUCr awarded ICSU grant

### Building Science Capacity in Africa via Crystallography

18 countries joined the Steering Committee with aim to formally establish AfCA.



The AfCA will be further cemented by three meetings in Africa consisting of :

- i) A follow-up meeting** to the Summit in 2014 preferentially in Northern Africa during middle 2015, to further work towards the formal formation of AfCA.
- ii) A Workshop in Central Africa** in the latter part of 2015, preferably in the Democratic Republic of Congo to offer local scientists the opportunity to interact, liaise, and strengthen basic knowledge of crystallography.
- iii) Bring African scientists** to the INDABA series of conferences in South Africa (latter part of 2015) to expose them to high level International interdisciplinary science.



Hot news ...

## Students Training in Tunisia



Mehdi Mansour	Didi Bibelayi Dikima
Algerian	Congo
1 week	1 week
25-31 may 2015	25-31 may 2015
USTHB. Alger	Kinshasa University

## Scientific Output



research communications



CRYSTALLOGRAPHIC  
COMMUNICATIONS

ISSN 2056-9890

Received 9 April 2015  
Accepted 12 April 2015

Crystal structures of 2,2'-bipyridin-1-ium 1,1,3,3-tetracyano-2-ethoxyprop-2-en-1-ide and bis(2,2'-bipyridin-1-ium) 1,1,3,3-tetracyano-2-(dicyanomethylene)propane-1,3-diide

Zouaoui Setifi,<sup>a,b</sup> Arto Valkonen,<sup>c</sup> Manuel A. Fernandes,<sup>d</sup> Sami Nummelin,<sup>e</sup> Habib Boughzala,<sup>f</sup> Fatima Setifi<sup>a\*</sup> and Christopher Glidewell<sup>g\*</sup>

Algeria

Tunisia

Algeria

South Africa



**THANK YOU.**