

# PAMOSTAR 2007

## 6<sup>th</sup> Symposium on Training and Research on Pan African Mathematics Olympiads

Ouagadougou, Burkina Faso, 5 - 10 November 2007

# Report

### Preamble

The 6<sup>th</sup> Symposium on Training and Research on Pan African Mathematics Olympiads (PAMOSTAR 2007) took place in Ouagadougou, Burkina Faso, from 5 to 10 November 2007. PAMOSTAR 2007 was organized by the African Mathematical Union Commission On Pan African Mathematics Olympiads, under the auspices of the Ministry of Secondary, High Education and Scientific Research of Burkina Faso, **with the financial support of the John Templeton Foundation (USA) and the Ministry of Secondary, High Education and Scientific Research of Burkina Faso.**

The **CIMPA** has been associated to this important event and has graciously supported the airfare cost of the President of the Advisory Board of IMO (International Mathematics Olympiad) and the Mediator of PAMO (Pan African Mathematics Olympiad) and main reporter of the PAMOSTAR 2007.

Concerning the John Templeton Foundation, the foundation has approved a grant to Professor Nouzha El Yacoubi, President of the AMUPAMO, to support a project including the two events entitled, "PAMOSTAR (Pan-African Mathematical Olympiad Symposium on Training and Research) 2007 and PAMO (Pan-African Mathematical Olympiad) 2008".

The foundation has suggested that the project include the participation of the two highest-achieving individual students, and a chaperone for each (preferably one of the PAMO coaches), to attend and compete in the International Mathematical Olympiad (IMO) following the PAMO. The intention is to provide an incentive for both students and coaches who compete in PAMO for the highest-level achievement and enthusiasm for the IMO event.

Also the Foundation has invited Prof Nouzha El Yacoubi to develop a method, such as a questionnaire, to study the attitude and motivation of participants in PAMO and PAMOSTAR immediately before and immediately after the event.

Otherwise the QEM (quality Education for Minorities) Network **has benefited of a grant from the John Templeton Foundation supporting the attendance of a group of six visitors, called PAMO Committee Of Visitors (PAMOCOV) for PAMOSTAR 2007 and PAMO 2008.**

It is important to specify that QEM in collaboration with the AMUPAMO have organized in July 2006 in Dakar the First International Workshop on Mathematics Education Research with the support of the National Science Foundation and the John Templeton Foundation. The involvement of the PAMOCOV in the PAMOSTAR 2007 and PAMO 2008 is an outgrowth of this Workshop by responding directly to the priority of identifying and nurturing students of African descent who are gifted in mathematics.

The PAMOCOV task have been defined as bellow:

- 1) Provide external expert judgment on the and PAMO effort, organized by the AMU, to identify and nurture high school students gifted in mathematics
- 2) Conduct a review and assessment of the PAMO annual mathematics competition and training symposium to ultimately enhance efforts of identifying and nurturing high school students gifted in mathematics in Africa; and
- 3) Gather first-hand knowledge from AMU's work with talented students in mathematics to determine features and best practices that have transfer potential to the United States.

Such a collaboration involving an American Foundation, an American network and an African Organization (namely the AMUPAMO) is, till now, unique and should be registered in historical records.

### **Attendance**

The following countries were represented at least by two members:

1. Burkina Faso (the team leader, a deputy team leader, eight students)
2. Ghana (the deputy team leader and one student)
3. Guinea (the team leader and a deputy team leader)
4. Ivory Coast (the team leader and a deputy team leader)
5. Nigeria (the team leader and two students)
6. South Africa (the team leader and one observer)
7. Swaziland (the team leader and one student)

One of the main objectives of PAMOSTAR is to bring international experts to share their experience with the Pan African Mathematics Olympiad (PAMO) trainers . This time, PAMO trainers and some selected students from African countries have participated in the Symposium. We should mention in particular the participation, as invited speakers of :

1. Prof Jozsef Pelikan, President Advisory board of the International Mathematics Olympiads (IMO), (Hungary)
2. Dr. Roger LABAHN (Germany)
3. Prof. Waldemar Pompe (Poland)
4. Prof. Johan MEYER (South Africa)

The John Templeton Foundation has been represented by Professor Mark Saul.

### **Opening ceremony**

The opening ceremony took place on Monday 9 april at 8.00 a.m. It was chaired by the Minister of Secondary, High Education and Scientific Research of Burkina Faso. Speeches were given respectively by Prof. Hamidou Touré the President of the LOC to welcome participants in Burkina Faso, the representative of Madam the President of the University of Ouagadougou to welcome participants, Prof. Nouzha El Yacoubi the President of the PAMO Commission of the AMU to stress the role and the main objectives of the PAMOSTAR and by the Minister of Secondary, High Education and Scientific Research of Burkina Faso who declared open the PAMOSTAR 2007.

It was followed by a welcome cocktail at 9.30 a.m.

### **The scientific activities of the PAMOSTAR** (All at the University of Ouagadougou)

They consisted in

- 4 workshops covering the following items: Algebra and Number theory, Combinatorics, Geometry, Inequalities. Toolkits and useful information on each item have been given during the appropriate workshop. The workshops have been intended to both students and teachers
- 4 student training sessions: These students training sessions were devoted to the students. The teachers have been invited as observers to enrich their manner to train the students
- 4 problems solving sessions: Some selected IMO Problems using the materials developed in the workshop, have been given in the Solving Problems sessions with various methods. These sessions were intended to the teachers and students
- 1 round table on regional PAMO training camps and Regional Mathematics Olympiads in Africa where the possibility to organize regional African training camps has been discussed. The Regional Mathematics Olympiad has been also debated.

### **The extra- meetings**

Several meetings with the PAMOCOV members and respectively the AMU Executive Committee and Officials, the LOC, the IMO invited speakers, the team leaders and the students were organized in the frame work of the symposium.

The PAMOCOV will report on these meetings

### **General Assembly and closing ceremony**

The General Assembly and closing ceremony took place on Saturday 10 November at the University from 4.30 pm to 6.30 pm.

The outstanding point of the General Assembly was the adoption of a recommendation on training camps in Mathematics in Africa (see the Annexe)

### **Conclusion**

The 6<sup>th</sup> Symposium on Training and Research on Pan African Mathematics Olympiads (PAMOSTAR 2007) was judged to be a real success. We are indebted to Professor Mark Saul, representative of the John Templeton Foundation (USA) and to all members the Quality Education for Minorities (QEM) Network (PAMOCOV) for their active participation in PAMOSTAR 2007, which has largely contributed to the success of this meeting.

### **Reporters:**

1. Prof Nouzha El Yacoubi, President AMUPAMO
2. Prof Daouda Sangare, Mediator of PAMO

November 2007

## **Annexe: Recommendations of the PAMOSTAR 2007**

**Participants in the sixth Symposium on Training and Research on Pan African Mathematics Olympiads (PAMOSTAR) held in Ouagadougou, Burkina Faso from 5 to 10 November 2007**

- Considering the recommendations of the PAMOSTAR 2000 of Kairouan (Tunisia),
- Considering the relatively weak number of countries participating to the PAMO
- Considering the difficulties in securing funding from States for PAMO activities
- Considering the globally weak level of the majority of candidates to the PAMO
- Considering the need to reinforce the skills of candidates' trainers to the PAMO

**Recommend :**

**- To countries members of the African Mathematical Union (AMU) :**

- 1) The continuation of ongoing efforts for the strengthening of the PAMO;
- 2) The organization, at the State level, of national Olympiads
- 3) The organization of regional Camps for training students for Pan African Mathematics Olympiads (PAMO)

**-To Ivory Coast :**

- 1) To spearhead the elaboration of a consensual body of Internal Rules and Regulations for a regional training camp of ECOWAS.
- 2) To organise the first training Camp for West Africa at the level of ECOWAS

**- Encourage the other regions of Africa** (Southern Africa, Central Africa, Eastern Africa and Northern Africa) to organize and install training Camps

**- Suggest** that South Africa, Kenya, Cameroon and Tunisia lead the organization of training Camps respectively for Southern Africa, Eastern Africa, Central Africa and Northern Africa.

Ouagadougou, 09 November 2007