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### **Application of Madagascar for Associate Member of the IMU**

On behalf of the Malagasy Mathematical Society (SMMG), I, Dr Fanja Rakotondrajao, President of the SMMG would like to apply for the adhesion of Madagascar as an Associate Member of the IMU. SMMG hopes that Madagascar's IMU associate membership to the IMU will break the isolation of Madagacars' mathematicians from the other part of the world and will give them opportunities to interact with mathematicians the world over.

Please find below a description of the state of mathematics in Madagascar.

The Universities of Madagascar are still young. Madagascar's first University, the University of Antananarivo, was founded in 1960. Its Department of Mathematics was opened six years thereafter. With the increasing of number of students, five new universities were founded all over the country in 1975.

All university courses have been given in French since the foundation of Malagasy universities. Meanwhile, Malagasy which is our mother tongue has been our learning language between 1975 and 1990 at the primary and secondary school, and after 1990, the school system returned to French.

There are two universities where Mathematics is taught: the University of Antananarivo and the University of Fianarantsoa. These two universities are also active in research in Mathematics. In Madagascar, there are approximately 60 professors in mathematics (7 females), and around 20 active research mathematicians.

There are Malagasy students who pursue their study or research in various universities all over the world after obtaining their Licence or Masters in Madagascar. I would like to mention particularly here our participation in the AIMS program in South Africa since its creation, and recently in the AIMS program in Senegal.

## **The list of Mathematical Societies in Madagascar:**

1. Société Mathématiques Malagasy (SMMG):

Created on August 2010,

President founder: Dr Fanja Rakotondrajao,

Number of members: 30

2. Société Mathématiques de Madagascar (SOMMA):

Created on April 1994 but which is no longer active.

- List of mathematicians whom the country considers well-known in the world-wide mathematical community:

1. Victor Harison, Professor at the University of Antananarivo
2. Arthur Randrianarivony, Professor at the University of Antananarivo,
3. Benjamin Randrianirina, Professor at the University of Fianarantsoa,
4. Gerad Razafimanantsoa, Professor at the University of Antananarivo,
5. Fanja Rakotondrajao, Professor at the University of Antananarivo,
6. Rivo Rakotozafy, Professor at the University of Fianarantsoa.
7. Vlady Ravelomanana, Professor at the University of Paris 7, France.

- An estimation of the number of mathematical publications that have been produced by mathematicians living in the country and that have appeared in respected mathematical journals in the recent years:

1. 2011: 4
2. 2010: 6
3. 2009: 6
4. 2008: 6
5. 2007: 6

**- Overview of educational activities:**

1. Since 2006, Madagascar has selected a team to participate in the Pan African Mathematics Olympiad; unfortunately, we could not participate in this and other such international events due to a lack of funds.
2. Last year, SMMG organized two workshops. Their main objectives were to break the isolation of young Malagasy researchers and students, and to give them the opportunity to have contacts to the international experts in the fields of the workshops.
  - i) ECAM 2011: ‘Ecole de Combinatoire et Algorithmique 2011’ (September 5-16, 2011) in collaboration with ICTP, Trieste-Italy. Chair and founder: Fanja Rakotondrajao. There were 50 participants to this workshop, namely students in their masters, young researchers and faculties from the department of Mathematics (Antananarivo and Fianarantsoa) and from the ‘Ecole Supérieure Polytechnique’ d’Antananarivo. Invited lecturers were from France and Canada.
  - ii) Ecole Mathématiques Africaine ‘EMA’, first Edition on Cryptography, Modelling and Algorithms (September 19-30, 2011). This workshop was co organized jointly by AMU, SMMG and CIMPA, in collaboration with IMU and AUF. Madagascar was selected to organize the first Edition of this series of workshops and we are very proud of its success. There were 50 participants. Invited lecturers were from France, Gabon and Madagascar.
3. This year, SMMG will organize the second edition of the first workshop: ECAM 2012 on September 3-14, 2012.

I have lived the difficulties of working alone with the lack of materials and the lack of funds. I know the problems young researchers have to face to obtain contact with international experts of their field and to spread the results of their research. I hope Madagascar’s Associate Membership of the IMU will be one more stepping stone on the road to building and consolidating a viable, sustainable mathematical community.

Sincerely,

Fanja Rakotondrajao