



**Bangalore (India) CIMPA research school 2013**



**Diaraf Seck**

Dans cette lettre, nous utilisons les langues de travail de l'UNESCO, l'anglais et le français. Nous avons fait ce choix car nous n'avons simplement pas les moyens d'assurer plusieurs versions.

In this newsletter, we use UNESCO working languages, English and French. We made this choice because we simply cannot afford to provide multiple versions.

## Foreword

Since at least half a century, real efforts, but not coordinated, between African countries have been made to train mathematicians. This has given the first results but overall insufficient.

In 1976, the African Mathematical Union (AMU) has been created in Rabat. Henri Hogbe Nlend was the first president of AMU and thanks to the interpersonal skills of first African mathematicians.

It is followed within AMU, the creation of four commissions, on

the history of mathematics in Africa, on women and mathematics in Africa, on the teaching of mathematics and the new technologies and on the pan-African mathematics olympiad.

We can say with certainty that a milestone is already asked. But a regional or sub-regional framework for exchanges between students in mathematics, the young mathematicians and the more experienced was lacking.

It is important to underline that a large majority of the population of sub-Saharan Africa are young people aged under 25. And there is a crucial need of teachers and researchers in mathematics. It is to

mention that over the past years, several initiatives for development of research in mathematics in sub-Saharan Africa started. But much of them struggling to reach their goal because of the low number of active researchers in mathematics in Africa.

Let us point out that according to the mathscinet databases, mathematicians from Senegal have published approximately 544 papers from 2008 to 2014 (only from January to June 2014, we recorded 47 papers).

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# research schools

november	march	may
24 - 5 <i>Théorie des singularités en topologie, géométrie et feuilletages,</i> Mexique (Mexique)	20 - 29 <i>Nonlinear Partial Differential Equations arising from Geometry and Physics,</i> Hammamet (Tunisie)	18 - 29 <i>Théorie des nombres et applications,</i> Oudja (Maroc)
december	april	
8 - 19 <i>Graph labelings, graph decompositions and Hamiltonian cycles,</i> Vientiane (Laos)	8 - 15 <i>Minimal surfaces, overdetermined problems and geometric analysis,</i> Santiago (Chile)	25 - 3 <i>Dynamical systems : Examples, billiards, and the 3-body problem,</i> Daejeon (South Korea)
march		
9 - 20 <i>Hamiltonian and Lagrangian Dynamics,</i> Salto (Uruguay)	13 - 24 <i>Géométrie différentielle et algèbres non associatives,</i> Marrakech (Maroc)	25 - 3 <i>Transformation Groups and Dynamical Systems,</i> Lima (Peru)



Bandung (Indonesie) CIMPA research school 2014



## Félicitations

Congratulations to Enrique Zuazua, President of our Scientific Council, who received on 9 October 2014 the Doctorate Honoris Causa from Université de Lorraine, Metz, France. Our Vice-President, Alain Damlamian, was present during the ceremony where CIMPA was quoted by Enrique.



Santiago (Chile) CIMPA research school 2014

## Some activities in 2014

1. EMA, Douala (Cameroun), Arusha (Tanzanie)
2. EMALCAs, Turrialba (Costa Rica), Tuxtla (Mexique), Mérida (Venezuela), La Paz (Bolivie), Barranquilla (Colombie), Cuzco (Peru), Puerto Madryn (Argentina)
3. Ecoles SEAMS, Institut Pertanian Bogor (Indonesia), Bandung (Indonesia)
4. Master au Cambodge
5. EPIMATH, Brazzaville (Congo)
6. SAMSA, Zimbabwe

## Call for proposals to teach on the Master at the Royal University of Phnom Penh (RUPP), Cambodia

CIMPA has been involved for several years now in a special project to support the Master degree program at the RUPP, working closely with several other organizations. The deadline for the open call for proposals for courses at RUPP is 1 April 2015. People wishing to teach a course must send to CIMPA either an individual proposal or a proposal by several participants with a named contact person.

## West Asia Mathematical Schools, WAMS

Before December 15, projects can be submitted to CIMPA. As EMALCAs in South America, EMAs in Africa and SEAMS schools in South and East Asia, WAMS will provide intensive courses at postgraduate level in West Asia.

## Le CIMPA en Asie du Sud et de l'Est

Mes premiers contacts avec le CIMPA datent de 1992 lorsque, à la suite d'une mission de prospection en Albanie pour la SMF, j'ai proposé au CIMPA d'organiser l'école de recherche «Mathématiques de l'informatique» à Tirana en 1993. En 1996, c'est à Wuhan que Wen Zhi-Ying et moi-même organisons l'école de recherche «Automates, systèmes dynamiques discrets et applications» qui fut à l'origine d'une collaboration qui continue à porter ses fruits entre mathématiciens chinois, français et japonais.



Christian Mauduit

La première école de recherche CIMPA en Asie du Sud et de l'Est avait été organisée en 1991 à Wuhan et depuis cette date 37 écoles ont été organisées dans cette région (dont trois cette année) et deux sont dès à présent programmées pour l'année 2015.

Lorsque l'on m'a proposé en 2010 de prendre la responsabilité de l'axe ASE, Michel Jambu avait déjà établi des rapports privilégiés avec la plupart de nos partenaires (en particulier la SEAMS) et mis en place les bases nécessaires au développement ultérieur de ces relations. Depuis 2013 je partage cette responsabilité avec Brigitte Lucquin dont j'apprécie particulièrement l'esprit d'équipe et la manière de travailler. Avec l'aide de Claude Cibils, nous avons récemment concrétisé le projet d'organisation d'écoles de recherche SEAMS-CIMPA sur le modèle de partenariat liant le CIMPA avec l'UMALCA depuis 1998. Deux écoles de ce type ont été organisées en 2014 et six sont d'ores et déjà programmées pour 2015.

Si je devais formuler un souhait pour l'avenir, ce serait de mettre en place un suivi du devenir des étudiants ayant participé aux écoles de recherche. Mais pour cela il faudrait certainement que le CIMPA puisse bénéficier de moyens humains supplémentaires.

Christian Mauduit

Professeur, Université d'Aix-Marseille, France  
Responsable scientifique Asie du Sud et de l'Est

past research schools	june	july	august	september
	23 - 4 <i>Partial Differential Equations: Analysis, Numerics and Applications to Floods and Tsunamis, Quezon City (Philippines)</i>	13 - 23 <i>Géométrie algébrique réelle, Villa de Leyva (Colombie)</i>	25 - 5 <i>Mathematical and Statistical Methods for Imagings, Bandung (Indonesia)</i>	25 - 3 <i>Geometric methods in classical dynamical systems, Santiago (Chile)</i>
	july	september	september	november
	7 - 19 <i>Algebraic Number Theory and applications, Dangbo (Bénin)</i>	18 - 28 <i>Random Structures, Analytic and Probabilistic Approaches, Nablus (Palestine)</i>	8 - 17 <i>Operator Theory and The Principles of Quantum Mechanics, Meknès (Maroc)</i>	3 - 16 <i>Aspects of Dynamical Systems, Kathmandu (Nepal)</i>

## People at CIMPA

Jeanick Allanic, secrétaire, gestion des écoles de recherche  
Marc Aubry, bureau, trésorier  
Jean-Marc Bardet, bureau, secrétaire général  
Claude Cibils, directeur, RS Amérique Latine et Caraïbes  
Alain Damlamian, bureau, vice-président  
Sylvain Duquesne, RS Afrique Subsaharienne  
Ahmad El Soufi, RS Pourtour Méditerranéen  
Agnès Gomez, secrétaire de direction et gestion financière  
Elisa Gorla, RS Inde et Asie Centrale et de l'Ouest

Jorge Jimenez Urroz, RS Inde et Asie Centrale et de l'Ouest  
Brigitte Lucquin, RS Asie du Sud et de l'Est, chargée de mission pour le Cambodge  
Christian Maudit, RS Asie du Sud et de l'Est  
Giulia Di Nunno, RS Afrique Subsaharienne  
Alfonso Perez, responsable informatique  
Mercedes Siles Molina, RS transverse  
Tsou Sheung Tsun, bureau, présidente  
Rosane Ushirobira, chargée de mission pour la communication

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The Senegalese case is to check as an interesting example in sub Saharian Africa. But it is not yet enough to be considered as a sufficient scientific production. It has to be improved and to be reproduced in other African countries.

The positive effects of the CIMPA activities, with its schools of research, on the life of mathematics in the world in general and in Africa, in particular, are indisputable.

It has allowed the young people but also for researchers scattered across African countries to be in contact with reputable scientists. These exchanges allow the African researchers to enforce their participation in the concert of the mathematical exchanges in the world.

But always an environment of initiation and strengthening in mathematics were always desired.

After the general assembly of AMU in 2010 which was held at Yamoussoukro in Ivory Coast, has been the place to create the African Mathematics Schools (EMA) by Professor Saliou Touré who was President of AMU from 2010 to 2014.

These EMA have the primary goal of strengthening the mathematical level of young people, to develop contact with relevant topics of current or major interest and stimulate the best among them toward more in-depth studies.

Since CIMPA supports and accompanies this beautiful initiative to strengthen the African students of license level and master in areas in mathematics.

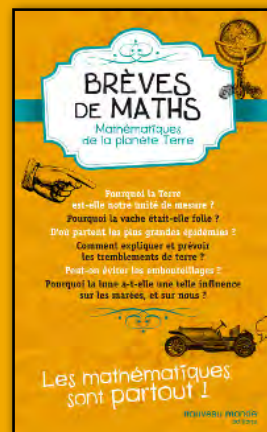
In addition to CIMPA, the funding from the donors, such as the Simons Foundation, from the World Bank to create centers of excellence such as in Senegal and in Benin oriented toward mathematics should foster the organization of more and more of EMA to prepare students for occupations of teachers (in the medium-secondary and higher), researchers.

That is why we would like to launch a vibrant appeal and encourage African colleagues to organize EMA which are less heavy to carry and less costly. And at the end of series of EMA organized, we could expect several very positive effects such as: the strengthening of capacities, the frequency of exchanges between African mathematicians and finally the exchanges more frequent among this community of mathematicians of Africa countries and that of the rest of the Earth.

Diaraf Seck

Professor, University Cheikh Anta Diop, Senegal

## Brèves de Maths



« Brèves de maths » est disponible en librairie depuis le 23 octobre. Cet ouvrage est issu du projet « Un jour, une brève » de l'action mondiale « Mathématiques de la planète Terre ».

Pour plus de détails :  
<http://www.cnrs.fr/insmi/spip.php?article10701>

## Prochaines réunions

Le prochain COP aura lieu à Paris les 15 et 16 janvier 2015.

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