

CENTRE INTERNATIONAL DE MATHÉMATIQUES PURES ET APPLIQUÉES INTERNATIONAL CENTRE FOR PURE AND APPLIED MATHEMATICS

CIMPA

A presentation to EMS-CDC Oslo 10 April 2015 by TSOU Sheung Tsun (and Claude Cibils)



# The training of mathematicians from developing countries

To this end CIMPA organizes Research Schools, supports activities in partnership with continental mathematical societies as well as funding for training in research.



**EMS-CDC**: funding for students etc.

- IMU-CDC: master programme in Cambodia, support for almost all CIMPA Schools (both financial and organizational)
- ICTP, AIMS: joint CIMPA Schools
- Argentina, Morocco, Brazil, Mexico etc.: support for School in the regions
- CARMIN: "laboratory of excellence" with IHP, IHES, CIRM



CIMPA is:

 a non-profit organization created in 1978. Mathematicians working for mathematicians. Offices in Nice, France

 mainly funded by France. More recently also funded by Spain, Norway and Switzerland

• a category 2 UNESCO Centre since the 90's.



## EMALCAs, AMS, SEAMS etc.

We support research training schools (at the M.Sc. Level) in collaboration with continental mathematical societies, very often just before and in preparation for a CIMPA School.

AMS with the African Mathematical Union

WAMS West Asia Mathematical Schools

**SEAMS** with South East Asian Mathematical Society

**EMALCA** with UMALCA (Latin America)

Workshop for women mathematicians in Africa



## EMALCAs, AMS, SEAMS and WAMS

### AMS 2015 with the African Mathematical Union

- Franceville, Gabon, 23/03 03/04
- Ziguinchor, Sénégal, 23/03 03/04
- Cap Vert, 13/04 28/04
- Yamoussoukro, Ivory Coast, 01/06 13/06
- Makerere, Ouganda, 06/07 17/07
- Yaoundé, Cameroun, 07/09 26/09
- Marrakech, Maroc, 12/10 30/10

West Asia Mathematical Schools 2015

• Erbil, Kurdistan-Irak, 19/04 – 30/04

Home > Activities by region > Sub-Saharan Africa > Announcements and various informations > Call for proposals 2015 for AMS (African Mathematical Schools)

#### Call for proposals 2015 for AMS (African Mathematical Schools)

by RS AS2 - 23 November 2014 Version française

Since the summer of 2009, the AMU, under the presidency of Saliou Toure (Ivory Coast), with Secretary-General Daniel Makinde (South Africa) has drawn up a strategic action plan and has been developing its activities: relaunch of Afrika Matematika with Springer and an international scientific committee, web site, distribution list and organization of African Mathematical Schools (AMS) in partnership with CIMPA.

What follows is the call for proposals for schools in 2015

#### African Mathematical Schools (AMS)

#### Call for Application 2015

- Deadline to submit the application: October 1st, 2014
- Time frame: Schools to be held between January 1st and December 31th, 2015

The application, consisting of a detailed project for a mathematical school, should be sent to both the African Mathematical Union (AMU) and CIMPA



## EMALCAs, AMS, SEAMS and WAMS

These are historically the first such schools and have been going on successfully for many years.

### EMALCAs 2015, with Union de Matematicos de America Latina y el Caribe

- Perou Piura 03/08 14/08
- Argentina Tucuman 11/08 22/08
- Venezuela Mérida 30/08 04/09
- Bolivia Copacabana 14/09 26/09
- Nicaragua Leon 07/12 16/12
- Mexico Puebla 15/06 26/06

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	FINAL		
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OF EVENTOR	EMALCA COLOMBIA, 6 al 17 de Octubre 2014 - INFORME FINAL		
US EVENTOS	EMALCA PERÚ, Cusco, 20 al 31 Octubre 2014 - INFORME FINAL		
EVENTOS	EMALCA ARGENTINA, Puerto Madryn, del 3 al 15 de Noviembre del 2014 - IN	FORME	
lades CIMPA	FINAL		

CIMPA

## EMALCAs, AMS, SEAMS and WAMS

### **SEAMS 2015 schools with the South East Asian Mathematical Society**

- Hanoi Vietnam, 01/03 15/03
- HCMC Vietnam, 31/08 08/09
- Sanata Dharma, Yogyakarta, Indonesia, 07/09 15/09
- Makassar, South Sulawesi, Indonesia, 28/09 06/10
- Serdang, Selangor, Malaysia, 02/10 10/10
- Gadjah Mada, Yogyakarta, Indonesia, 09/11 17/11





## FUNDING FOR TRAINING IN RESEARCH

 Priority in the most mathematically or economically deprived areas, and very specially in Africa

Projects (between 2 to 4 weeks) for teaching at Master level

 Each year we fund about 10 such projects, with average support of 1000 euros per project



### **CIMPA school Laos 2014**





## **CIMPA Research Schools**

- Open call every year: proposals for two-week schools come from everywhere, some are encouraged by CIMPA members,
- the road-map is crucial, organization is local with help from CIMPA, using a North-South-South format.
- the Scientific Council evaluates and makes recommendations,
- the Steering Council selects around 20 research school projects.
- the lecturers and organizers are all voluntary



## **CIMPA Research Schools**

### **The Scientific Council**

- Jean-Marc Azais, France, probability and statistics
- Viviane Baladi, France, dynamical systems
- Edy Baskoro, Indonesia, graph theory
- Susanne Brenner, USA, numerical analysis
- Carlo Di Prisco, Venezuela, logic
- Marisa Fernandez, Spain, differential geometry
- Helena Nussenzveig Lopes, Brazil, PDE, fluid dynamics
- Yousef Ouknine, Morocco, probability, stochastic equations
- Ragni Piene, Norway, algebraic geometry
- Ramdorai Sujatha, India, number theory, K-theory
- Cedric Villani, France, stat phys, optimization, Riem geom.
- Enrique Zuazua (chair), Spain, PDE, control, num. analysis



### THE ROAD MAP

A detailed document setting out how each School project is set prepared, how each School is organized, and how it is evaluated afterwards

 On the CIMPA side, the Director, the Regional Scientific Officers, the Secretariat, help with the organization.

 There are Regional Scientific Officers for each of the 5 regions: Latin America and the Caribbean, Mediterranean Rim, South-East Asia, Sub-saharan Africa and West Asia.



### THE ROAD MAP

A School takes about two years to prepare: proposal by October 1 in year X, decision in year X+1, School takes place in year X+2.

 Each School has two principal scientific organizers, one local (where the School will be held), and one from one of CIMPA's member States.

- Financial support from CIMPA: 20% to 50% (8K to 12K euros)
- After the School: two reports, one from local organizer and one from CIMPA representative.



### Numbers

279 Research Schools since 1979

Countries by continent:

- Africa : 18
- Asia : 20
- Latin America and Caribbean : 13

13500 young mathematicians 2500 speakers, 1100 from developing countries



### 201

#### Salto Uruguay March 9 20

Hamiltonian and Lagrangian Dynamics

#### Santiago Chile April 6+17

Minimal surfaces, overdeterminated problems and geometric analysis

#### Cabo Frio Brazil June 1+12

II Latin American School of Algebraic Geometry and Applications

#### Lima

Peru May 25-June 5 Transformation Groups and Dynamical Systems

#### Buenos Aires Argentina July 6 • 17 Random processes and optimal configurations in analysis

Cusco Peru August 8 22 Arithmetic, Groups and Analysis: Cusco 2015

#### Sao Carlos Brazil August 25, Sep 4

New interactions of Combinatorics and Probability

#### Coclé Panama October 19>28 Non-commutative Algebra

Salta Argentina November 2 · 13 Cantor-Salta 2015 Dynamics on Cantor sets

#### Hammamet

Tunisia March 20.29 Nonlinear Partial Differential Equations arising from Geometry and Physics

#### Marrakech Morocco April 13>24

Géométrie différentielle et algèbres non associatives

#### Oujda Morocco May 18,29

Théorie des nombres et applications

#### Izmir

Turkey June 29 July 12 Leavitt path algebras and graph C\*-algebras

#### Muizenberg South Africa july 19-31 Algebraic Representation

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#### Mombasa Kenya July 20-31 Mathematical Modeling and analysis of complex systems

Ziguinchor Senegal December 5>16 Probabilistic models in epidemiology

#### Mumbai India July 6×17

Summer School on Current Research in Finite Element Methods

#### Ispahan Iran August 24 Sep 4 Tilings and Tesselations

Daejeon South Korea May 25 June 3

Dynamical systems : Examples, billiards, and the 3-body problem.

#### Ulaanbaatar Mongolia July 27 - August 7

Stochastics Processes and Applications Mongolia 2015



### **NPA2015** Ecoles de recherche Research Schools



### **CIMPA School Salto 2015**





### **CIMPA School Colombia 2014**



