

December 14 - 16, 2010 Erbil (Kurdistan, Iraq)

International Conference on
Revitalizing Research in Kurdistan.

<http://sites.google.com/a/mhe-krq.org/rrku/>

Session Four: Mathematics

December 15, 2010, 9:00 – 12:00

Michel Waldschmidt

Institut de Mathématiques de Jussieu & CIMPA

<http://www.math.jussieu.fr/~miw/>

Schedule

Short presentation of the workshop presenter's own research (about 5 minutes), using it to launch a discussion of the following :

- (1) collaborative research opportunities ;
- (2) sites for our scholarship recipients to pursue graduate degrees ;
- (3) sabbatical options for Kurdish professors, and/or
- (4) split-site Ph.D. options.

All of these items needn't be covered, but discussion of the ones that pertain to your research and/or university would be highly desirable. All of this should take place in the first 30 minutes of the presentation.

The following 25 minutes will entail questions, answers, and discussion from the 30 attendees of the workshop session.

We want to leave 5 minutes for transitioning to the next speaker in the session.

Programm

Michel Waldschmidt (convener) — *Rafid Al Khaddar* (reporter)

9 :00 – 9 :30 — *Michel Waldschmidt* : “International Cooperation in Mathematics : France and Kurdistan”

9 :15 – 9 :30 — *Fatima Aboud* : “International Cooperation in Mathematics : France and Kurdistan”

9 :30 – 10 :00 — *Nazar Shuker* : “A kind graph structure on certain commutative rings”

10 :00 – 10 :45 and 11 :15 – 12 :00 — “Mechanism of Collaboration to Meet Conference Objectives”

Université P. et M. Curie (Paris VI)

- I am a professor at the Université P. et M. Curie (Paris VI), member of the Institut de Mathématiques de Jussieu, specialist of number theory, especially transcendental numbers and Diophantine approximation. Right now my research subject is *Diophantine equations*.

<http://www.math.jussieu.fr/~miw/>

<http://www.math.jussieu.fr/~miw/aboutme.html>

I have been

- President of the Société Mathématique de France from June 2001 to June 2004.
- Vice-President of the CIMPA (Centre International de Mathématiques Pures et Appliquées) from January 2005 to January 2009.
- I am involved in the Cooperation in Mathematics between France and several countries, including Bhutan, Cambodia, India, Iran, Iraq, Mali, Nepal, Pakistan, Taiwan, Thaïland, Vietnam, Brazil, southern shore of the Mediterranean,...

MathSciNet

<http://www.ams.org/mathscinet>

Waldschmidt, Michel

MR Author ID : 180085

Earliest Indexed Publication : 1970

Total Publications : 159

Total Author/Related Publications : 172

Total Citations : 435

co-authors : 37

20 research students and 55 descendants (Mathematics
Genealogy Project website)

Cooperation

<http://www.math.jussieu.fr/~miw/cooperations.html>

Moyen-Orient - Middle East

- 2000 : Iraq, Mission CIMPA ([rapport en français](#))
- 2002 : Mission en Iraq et en Syrie ([rapport en français](#))
- 2008 : Mission au Kurdistan Iraquien du 6 au 13 octobre ([rapport en français](#))
- 2009 : The First Iraqi-French Mathematics Conference in Cooperation with College of Science, Salahaddin University-Erbil November 14-17 ([report in English](#))

Centre International de Mathématiques Pures et Appliquées

- **CIMPA** is an international organisation whose aim is to promote mathematics in developing countries. **CIMPA** is sponsored by UNESCO and supported by the French Ministry of Higher Education and Research (MESR), the University of Nice-Sophia Antipolis (UNS), the Spanish Ministry for Science and Innovation (MICINN) and the French National Centre for Scientific Research (CNRS).

- **CIMPA** was founded in 1978 and is located in Nice. Its aim is to promote international cooperation in the area of higher education and research in pure and applied mathematics and interactions between these, as well as in related disciplines.
- **CIMPA** was created in France and is recognised by UNESCO. It is sponsored by MESR (France), UNS (France) MICINN (Spain) and CNRS (France). **CIMPA** has the status of an association (French law of 1901) and works with a large number of mathematicians and member institutions throughout the world.

Centre International de Mathématiques Pures et Appliquées

- *TSOU Sheung Tsun* (President), Professor at Oxford.
Physique mathématique.
- *Alain DAMLAMIAN* (Vice President), Professor at Paris 12, Val de Marne. Analyse non linéaire. Equations aux dérivées partielles non-linéaires.
- *Jean-Marc BARDET* (Secretary), Professor at Paris 1.
Probabilité et Statistiques.
- *Bernard ROUSSELET* (Treasurer), Professor à Nice.
Vibrations non linéaires. Optimisation

Regional Scientific Officers (RSR) :

- Subsaharian Africa : *Marie-Françoise Roy*, Professor at the University of Rennes 1
- Latin America and the Caribbean Islands : *Claude Cibils*, Professor at the University Montpellier 2 in delegation at the University of Nice Sophia-Antipolis
- South East Asia : *Michel Jambu*, Professor emeritus at the University of Nice Sophia-Antipolis
- India and Central and West Asia : *Michel Waldschmidt*, Professor at the University of Paris 6
- Mediterranean rim countries : *Ahmad El Soufi*, Professor at the University of Tours

CIMPA Research Schools in Kurdistan

- Project submitted to CIMPA for April 2012 : *Computer Science and complex system modelling*
- 2013 ICPAM-CIMPA research schools call for projects
- Workshop in November 2010 with Caucher Birkar (Fondation Sciences Mathématiques de Paris) in Salahaddin University, Erbil : algebraic geometry.
- Projects 2011 : at least three workshops with French mathematicians (one or two on number theory, one on topology, one on numerical analysis), one workshop with a mathematician from Urumieh (commutative algebra).
Coordinators : *Mohammad Eftekhari and Fatima Aboud.*

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**Committee for the Developing Countries (CDC)
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Chair : *Tsou Sheung Tsun* (Oxford)

Vice-chair : *Michel Waldschmidt* (Paris)

- Book donation program
- ERCE : Emerging Regional Centers of Excellence
- Twinning program, Seed grants

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First Iraqi-French Conference of Mathematics

<http://uni-sci.org/conference/>

Department of Mathematics, College of Science, University of Salahaddin - Erbil (Hawler), Kurdistan Region-Iraq

under the auspices of the two main French mathematical societies : **SMF** (Société Mathématique de France) and **SMAI** (Société de Mathématiques Appliquées et Industrielles)

- Ministry of Higher Education in Kurdistan Region-Iraq
- Ministry of Planning in Kurdistan Region-Iraq
- CIMPA
- Ambassade de France à Bagdad
- Institut Kurde de Paris

Visites scientifiques de haut niveau

Support of the French Embassy : high level scientific visits from Iraqi university staff in academic positions

Université St Etienne :

- *Herish Omer ABDULLAH* 2009,
- *Rostam Kareem SAEED* 2010

Baghdad International Center for Mathematics and Physics

Pure, theoretical physics, experimental physics, Mathematical research

- Including synchrotron radiation technology and it's applications in biomedical imaging, agriculture, medical sciences
- astronomy, applied mathematics. : analysis, geometry, mathematical physics.
- Specific topic in mathematics will range from Riemanian and algebraic geometry to non linear partial differential equations.

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Regional cooperation

- Regular seminars running in mathematics departments of Kurdistan
- Urumieh, Sanandaj (Kurdistan, Iran)
- Cooperation with Iraq

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Scholarships

- Distribution of the information
- Selecting the students
- Preparing the students to stay abroad
- Organizing their return

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Upgrading the level of teaching at Kurdish Universities

- The background of the students with a BSc or Master from Kurdistan is not sufficient for them to pursue their studies abroad.
- The BSc and Master curricula in the Universities of Kurdistan should be revised.
- The professors should include exercises in their teaching, they should not leave them to assistant professors.
- *Encourage students to think.*

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Continuous academic development

- Suitable conditions should be provided to university staff for improving their skills and combine teaching with research.
- Running regular seminars with the help of foreign experts who would come to teach, to give lectures, suggest directions of studies, and also select the best students. There is a (small) cost for such actions.
- The teaching load should be reduced : 10 to 12 hours of teaching a week is too much .

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Using previous experiences

- Success stories : China, India, Brazil, South Korea, . . . and France
- Encourage better research and use proper indicators for evaluation (*number of MoU is not the best one*).
- École Normale Supérieure (Ulm) : the best students are selected, and then receive a salary.
- Efforts have to be made at two levels : the local one with academic staff, a global one with the authorities of Kurdistan.

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