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Report on
The First Iraqi-French Mathematics Conference
in Cooperation with College of Science, Salahaddin University-Erbil
<http://uni-sci.org/conference/>
under the slogan **With Science, we build civil society.**

1. The conference has been a success. Sheets were distributed to the participants the last day, so that each of them could comment and give suggestions. The feedback is positive. The answers were written in Arabic or in Kurdish, a short summary will be provided by Herish Omer Abdullah and appended to this report.

2. The conference started on Saturday morning, November 14, and ended on Tuesday evening, November 17. The first five half-days were devoted to 15 plenary lectures, 7 were given by Iraqi mathematicians, 7 by French mathematicians, and the 15th one by an Iraqi mathematician who just received her PhD from Nantes University in France. The two next half-days were for parallel sessions; there were more than 60 contributed lectures. The last half-day was for a general discussion and the closing ceremony. Most events took place at the precise time they were scheduled. Ten mathematicians came from France, including two ladies Iraqi who defended their PhD theses in France recently.

3. The meeting offered an excellent opportunity for the mathematicians from Iraq and France to know each other much better. For some Iraqi participants, it was the first time they attended a mathematical conference. For some others, it was an opportunity to meet colleagues and friends they had not seen for many years. The large number of questions raised after the lectures, the many discussions we had with the participants during the breaks, showed the remarkable enthusiasm of most of them. According to the point of view of the French mathematicians who participated to the conference, a number of topics on which Iraqi mathematicians are doing research is not connected with the main stream of the mathematical developments at an international level. The reasons for this fact are well known. It is hoped that this conference will turn out to be a starting point for establishing cooperations which should contribute to enhance the level and improve the situation.

4. Several young mathematicians are preparing a PhD in France and will soon come back to Iraq - one of them is just doing it. The investment this represents should be used in an optimal way: these new Doctors are experts in their subject, they are aware of the most recent results in their domain, and they have learned a number of things during their stay abroad. Hence they should get the opportunity to teach them to their colleagues and to the Iraqi students. At the same time, they should have facilities to keep contacts with their advisors

in France, in order to pursue their research work.

5. It is recommended that regular (say weekly) seminars or workshops be organised in different Iraqi universities, with the scientific support of French specialists, on various topics (like topology, commutative algebra, numerical analysis, statistics,...). The idea is that this specialist suggests a book or a paper to study by the Iraqi colleagues or students; after a few months, he visits the Iraqi university for a short period, say one or 2 weeks, in order to answer the questions, give a short course and suggest further directions of studies. Such a scheme should be repeated on a regular basis, as time will be needed to see the results; but the output on the long run should be an improvement of the level of mathematics in Iraq.

6. The closing ceremony gave the opportunity to several participants to ask questions and exchange information. One of the questions which was asked most often to the visiting French mathematicians was on the possibility for Iraqi students to pursue their studies in France. This is not an easy question, and there is no simple answer. It has been agreed that the web site of the conference <http://uni-sci.org/conference/> will continue to be active and will contain information on this topic. A message will be sent to all participants so that they are aware of this source of information. Another important question on which we have no simple answer is about raising the level of the first years of the curriculum in mathematics in the Iraqi Universities (and also in High Schools). Again, we shall investigate this question and propose further directions by providing information on the same web site. The Iraqi colleagues face situations which contribute to the difficulties they have to reach an international level for research: the number of hours they need to teach (at least 12 hours per week) is hardly compatible with a research activity; the access to documentation is difficult, especially due to slow internet connections in the universities. Such issues should be considered by the authorities of the universities.

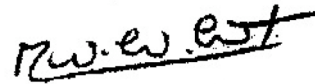
7. Visits of Iraqi mathematicians in France should enable them, on the one hand to enlarge their domain of expertise, and on the other hand to identify French colleagues who could be joint supervisors for “sandwich” (*cotutelle*) theses of Iraqi students.

8. The French Embassy contributed to this Conference, not only by suggesting that it takes place, but also by giving 12 000 Euros. The yearly support given by the French Embassy to CIMPA from 2001 to 2008 enabled a number of mathematicians from Iraq to attend CIMPA Research Schools in neighboring countries. The contacts that the participants to these schools had with foreign mathematicians are very important. It is hoped that such a support will be resumed starting from 2010.

9. This conference has also an impact at the local level. Some projects of CIMPA Schools in Kurdistan Iraq are being considered. A first one could be on commutative algebra in January 2011. A second one could take place in 2012. In this part of Iraq, there is no worry about security and it is safe to organize

such meetings. A regional cooperation is also considered: a project of Diploma Program between Sanandaj University in Iran and Salahaddin University in Erbil is under discussion. The Iranian colleagues would come to Erbil and teach courses to a small number of selected talented students from the Universities of Iraqi Kurdistan.

10. Finally, we wish to thank all sponsors and all those who contributed, in one way or another, to the success of this Conference. The local organizing committee did an excellent job during all the conference. During more than one year of preparation, Herish Omer Abdullah has worked hard to prepare this meeting, and he may be proud of the result. The French participants have experienced with great pleasure the remarkable friendly hospitality of their Iraqi colleagues. This event would have been impossible without the generous sponsors, namely, Ministry of Higher Education in Kurdistan Region-Iraq, the French Embassy in Baghdad, the University of Salahaddin, the CIMPA, the Institute Kurde de Paris and the Ministry of Planning in Kurdistan Region-Iraq. This conference was under the auspices of SMF and SMAI; we are grateful to them. The Dean of Education offered the lunch of the second day and the President of the University offered two dinners. The governor invited all participants for a excellent dinner on the last evening.



Michel Waldschmidt.

Annexe 1: *Plenary Speakers* (1 p.)

Annexe 2: *Summary of the observations by participants* (1 p.)

This report is available on the web at URL

<http://www.math.jussieu.fr/~miw/articles/pdf/RptErbil2009.pdf>

with a link on the page

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

**The First Iraqi-French Mathematics Conference in Cooperation with College of
Science, Salahaddin University-Erbil**

Plenary Speakers

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

- **Pierre Cartier:** *Combinatorics of polyhedral*
- **Michel Jambu:** *Hyperplane Arrangements, Lower Central Series and Chen Lie Algebras*
- **Jamal Rasul M. Ameen:** *The human cost of tyranny in iraqi kurdistan: a bayesian dynamic estimation*
- **Abbas Yunis Al-Bayatti:** *On parameterized cg with four and five parameters*
- **Alain Damlamian:** *An introduction to periodic homogenization: the unfolding approach*
- **Ali Aziz Ali:** *Wiener indices and Hosoya polynomials of graphs*
- **Brigitte Vallée:** *On the non-randomness of modular arithmetic progressions: a solution to a problem by V. I. Arnold Mathematically based computational techniques and tools for face recognition*
- **Sabbah A Jassim:** *Mathematically based computational techniques and tools for face recognition*
- **Bashir Khalaf:** *Parallel block methods for solving initial value problems*
- **Christian Mauduit:** *Measures of pseudorandomness for finite binary sequences*
- **Nazar Shuker:** *Zero divisor graphs over commutative rings*
- **Fatima M. Aboud:** *Non-linear eigenvalue problems*
- **Mohammad Eftekhari:** *Torus-based cryptography*
- **Rostam K. Saeed:** *Higher order iterative methods for solving nonlinear equations $f(x)=0$*
- **Jean-Louis Maltret:** *Discrete curvatures and geometric modelling*

Positive points:

1. The Conference was successful and good in its organizing and it is that the committees did a big effort.
2. Announcement about the conference and all communication were through internet was really a good idea.

Negative points:

1. Too many general lectures and the conference was condensed which made participants exhausted.
2. Too many participants
3. The Iraqis in general were very weak in English language.
4. There was no excursion.
5. The technicians used were not so efficient.
6. The propaganda about the conference was weak.
7. The meal in the Cultural center was the same for the four days and vegetable meals should be included.

Suggestions:

1. It was better if the lectures and sessions were made in three parallel lines (pure, applied math. and statistics and computer).
2. Research papers should be evaluated before the conference started.
3. Publication should be free of charge.
4. Some research papers could be done by posters.
5. The conference should be annual and in different places.
6. For the next conference, people from different nationalities should participate.
7. Informing all Iraqi Mathematics departments through mail.
8. People holding the scientific degree (professor) should be identified clearly.
9. There should be a conference for each branch of mathematics.
10. Give opportunity for participants to make a tour in the city and see the beautiful places.
11. Try to make some scholarships to get PH.D. and M.Sc.
12. Holding a summer school in mathematics.
13. Doing a journal special for mathematics by the University.
14. For the coming conferences, only participants with papers should attend it.
15. The chairman of the session should be fit for the papers presented in that session.
16. Foundation for mathematical society in the K.R and Iraq.
17. For the next conferences, there should be a news paper issued daily during the conference.
18. Copy machines and Internet should be available for participants in a better way.
19. Giving each participant a copy of the conference proceedings.
20. Make arrangement with some publishing companies to make a book exhibition during the period of the conference.
21. The Conference should be regular periodic each month?!!!.