

Report CIMPA school
Current Trends in Computational Methods for PDEs
July 8-19, 2013, Indian Institute of Science Bangalore, India

The school was held in Bangalore, from 8 to 19 of July, in the department of Mathematics of the ISSC institute. Bangalore is a safe city and seems more advanced than other cities in India. Traffic is still very heavy, but there is good public transportation with buses, taxis and autos. The campus of the ISSC is quite, full of trees, squirrels, and green, and roads connecting the different buildings. There are three guest houses inside the campus all at a short walking distance from the venue. All the participants were located in the same guest house, and the speakers in another.

There were 62 students accepted, 12 female. From those 7 did not come, 4 from India and 3 from abroad. There were participants from Irak, Iran, Nepal, Nigeria, Philippines, Saudi Arabia, South africa, and Sri lanka. Two students left before the end of the school. One from Iran left one week before the end of the school. This type of situation should be avoided and when supporting an student, he should make the commitment to stay for the whole period. The other one was in Bangalore just one day. Right the next day of his arrival he knew that her family was in danger in Irak and left immediately. This student should be still supported by CIMPA and I am looking forward to know news about him and his family.

I reached Bangalore only on the 16, and i had the opportunity to listening to few talks of Andreas Vesser, Susan Brenner and Li-yeng Sung (they were sharing their time), Lucia Gastaldi and Daniele Bolfi (also sharing a course), Bobby Philip, included in the list of speakers at the last moment, and Fabio Nobile and Raul Tempone again in a course organized by both of them. Two female were among the speakers. This is my first conference in Numerical Analysis and one motivation seems to control the error in the approximation of a solution to a pde by a particular algorithm. Some open problems were also discussed.

The talks were given in the Auditorium with capacity for around 80 people in comfortable chairs. There are pictures of Hardy and Ramanujan above the two main entrance doors. Gauss, Noether, Poincare, and Kowalewskaya decorate the walls of this small auditorium. There is a microphone available. The talks are either in blackboard and/or slides.

There was suppose to be a lab for practical courses, but a network problem made the organizers to run the classes also in the auditorium sharing the own computers of the students. Unfortunately there are not too many plug ins to plug the computer. The program that they use is MATLAB and its free version Octave. Some students had it and some download it at the school. During the last days, the participants made a presentation of their own work. In spite of the difficulty inherent to present in 5 minutes a work, the students did a very good job presenting results on distribution of petrol, perception of the human eye, dengue, solar energy, financial mathematics, as well as other more theoretical equations.

The level of the talks seems appropriate and there is a good part of the audience that follow the classes. There are few students located in developed countries conducting their phd that make more active the sessions and questions are made regularly. For other students the level is too high and can not follow as easily, however, still the school is a good opportunity to meet speakers and students of their area. The speakers seem not to attend the courses of other speakers. There was a pre-school starting the 24 of June and almost all the participants of the school attended, 8 from abroad, and all the participants from India, that might have helped them to understand and follow better the material in the school. There were 9 speakers for the preschool, 8 of them from India, one from Spain, and among them two female.

One of the original speakers, Mark Ainsworth, failed at the last moment, and Bobby philip, a local speaker based on Tenessi was substituted in the last moment to give a course from the computer science point of view. For the participants It is a great opportunity to see an speaker from their own country among the speakers of the school.

Appart of the trip of the speakers, covered almost totally by universities and external funding, the school had a budget of 27K. It was well covered financially, with the help of NBHM, 5K, ICTP, 2,5K, NPDETCA, 15K, IMU,1,5K IISc Bangalore and the Clay institute. The expenses of CIMPA, 5K, covered the travel and local expenses of participants and the trip of one speaker. One more was also covered by CIMPA, Fabio Nobile from Switzerland not considered in the final budget of the school.

I would like to emphasize the great effort of the speakers and the organizers to cover the travel expenses of the speakers. Personal grants,

and universities of the speakers, the IISc Bangalore and indian organizations and, let me remark the contribution of the Clay institute that covered the trip of two of the participants. I know that this has been a great effort for Blanca Ayuso.

The local organization of the school has been really well prepared up to the last detail and again I would like to congratulate T. Gudi, a young mathematician not long ago hired in IISc Bangalore, with the help of Blanca, for the great effort done in this direction. After the school has ended, i believe that organizing a CIMPA school in a city as Bangalore, highly developed mathematically speaking, is a very good idea. India has the means to organize the school in a successful way, with many very different sponsors, and at the same time the location allows participants from many neighboring countries to assist to the school.

On the 17-th, I had a meeting with prof. Basbadeh Datta. At IISC they have a summer program in which some students all over India apply for a fellowship to spend two months in Bangalore under the guidance of a professor. They follow courses particularly designed for the candidates, and at the end they write a report on their work. Basbadeh is one of the tutors, and he could put me in contact with G. Misra and M. Namakuram members of the Indian academy of science. I have proposed them to open some few spots for students from developing countries close to India, as Nepal, Bangladesh, Cambodgia, or others, and the first reaction is very positive.

This same day we could attend an impressive dancing performance, not programed ahead, at a theater in town. The artists happened to be the daughter of the dean of TIFR, Bangalore known by prof. Neela Nataraj from IIT Bombay, one of the participants of the school, and speaker in the pre-school, and happily accepted to organize such an event.

On the 19-th i could continue my talking with prof. Basbadeh Datta. Prof. Rangarajan is a member of the department of mathematics of IISC and he is, among other things, Convenor of the National Academy Initiative, and the director of the institute of Indo-French cooperation. NAI is running a phd program in Bangalore with few fellowships available for Indian students. It could also be a possibility that few students from other countries could be included in the program, and conduct their phd. We will continue this conversation by email. I also met prof.

R. padih, Divisional chairman, to get his opinion on these projects. The meeting was really short, but i think it was worth to meet. He pointed out that the two problems that such an action could face is lack of collaboration of the resources persons, and lack of funding. Both seems to be already solved in this case, since the students would be enrolled in a program that is already working. He is open and welcomes such an iniciative.

All the participants got a certificate for their attendance to the pre-school and the CIMPA school. They also were requested to fill and return a page of feedback. Prof. A. K. Pani, speaker at the pre-school and participant of the school will make an statistical analysis on the data and will send the conclusions when ready.

The institute IISc, Bangalore, collaborators from IIT Bombai, NBHM, local organizers and the effort of the speakers should be acknowledge for the success of this school. And again a special mention to B. Ayuso and T. Gudi for a very successful school, that i hope will have a big impact in the area.

Local web side <http://math.iisc.ernet.in/gudi/cimpa.html>

CIMPA web page <http://www.cimpa-icpam.org/spip.php?article502>

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