ICM 2006 in Madrid
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After my PhD, I had a postdoctoral position in Vancouver, Canada, and just a few weeks after I took up this post, the 1974 International Congress of Mathematicians (ICM) took place there. I found it a very intimidating experience (and perhaps it was), and vowed not to attend any more ICMs. Having just broken my vow, I am glad that I did, because I have rediscovered the reasons why I became a mathematician. This ICM in Madrid is a fantastic experience! In 1974, the ICM was held on campus, and the lecture theatres overflowed—I, who am rarely punctual, missed out on most of the talks that might have interested me. Things are different here.

At ICM2006, here in Madrid, everything is taking place in the *Palacio Municipal de Congresos*, a huge facility with two enormous auditoria and dozens of smaller lecture rooms, and the main problem in getting around is to work out that Lecture Room L101 are on the left (as you go in) and on the first floor (actually, the floor numbering is odd—or should I say even—when one goes downstairs, one arrives first at floor -2 and then at floor -4). From the point of view of the logistics, the conference facility is similar to, or perhaps even better than Darling Harbour in Sydney where ICIAM 2003 took place. However, Darling Harbour is in the centre of Sydney, within walking distance of Central Station and hundreds of bus lines, while the Madrid conference centre is far away from the city. In principle, it is only two metro trips away from almost anywhere in Madrid, but this is August and many tracts of the metro lines are shut— apparently for repairs—and it is hard to get to or from the conference centre from almost anywhere else. And in my humble opinion, when in Madrid, one should stay close to the city and enjoy the night life—walking from one tapas bar to another, nibbling and quenching one's thirst. The Spanish lifestyle is tough, though: dinner near midnight, and then breakfast at 8 a.m. in order to be ready for the first lecture at nine. No wonder that Keith, who did a PhD with me in Australia, and now has a postdoctoral fellowship here, never gets to work before 11 a.m.

Anyway, enough of the place where it is happening, and to the events. The opening ceremony was orchestrated with the same sort of fanfare as at the Olympic Games. It was very exciting, because we didn't know whether Perelman, who has more or less just solved the Poincaré Conjecture, and was tipped as a certain Fields Medallist, would come or not. And while we Australians were almost sure that Terry Tao would also be a medallist, these are not announced until the opening ceremony, and many of us did not know for sure what would happen. The official itself was preceded by a very speedy film highlighting the mathematical nature of Spanish architecture (especially that of Moorish tradition) and some modern music with a flamenco influence. Then the opening itself, with various congratulatory speeches by Spanish authorities (the English translation, projected on a screen above the stage, of the speech by the mayor of Madrid included the statement that a nineteenth century Spanish mathematician was a liberal in politics, like the mayor herself, but the spoken version omitted this, perhaps in deference to the king), and the medal presentations. Enough has been said about those. And then there was a reception for the thousands of people present, which reminded me of the bunfights in Vancouver years ago. In the afternoon, there were talks about the work of the Medallists.

The second day was exciting, because Terry talked about his work (emphasing his mathematical philosophy: everything that is not structured is random, and everything that is not random is structured), the Australian Ambassador in Madrid came to say

hello to some of the members of the Australian contingent (though she's now flying back to Australia, and will be replaced tomorrow), Richard Hamilton (who will be known to some of those who spent time at ANU in the 1980s) discussed the Poincaré Conjecture, and Alfio Quarteroni described the modelling of blood flow in the human body (a brilliant show, with high quality videos of model blood flows, and really exciting applications). And today has been really interesting; for me the highlight was Etienne Ghys talking about dynamical systems, getting insights into these these by understanding how the orbits of several different individual points twist around each other; again, the videos were fantastic, and the amazing fact is that the Lorenz attractor, which first appeared in meteorology, is essentially the same as a dynamical system which comes up in number theory! I'm looking forward to seeing a plenary talk by another Australian, Iain Johnstone (another Californian resident, damn it), tomorrow.

The talks that I have seen here have been very stimulating. The main speakers are amongst the top mathematicians in the world, and are chosen (or at least are supposed to be chosen) for their expository skill as well. I remember a few talks at ANZIAM2003 which were arguably as intellectually stimulating as the talks I have seen here, but the quality of the video material is something I have never seen before, particularly in the talks of Quarteroni and Ghys, and in both cases the videos really facilitated the audience's understanding of the nature of the very complex problems being treated. I hope that we can see, and learn to produce, and teach our students to produce, something of this quality in Australia in the next few years.

I have spent a bit of time at the "Mathematics Australia" booth (jointly managed and manned by the AustMS, AMSI and ICE-EM), where the hottest item with the crowds (and especially with the young Spanish volunteers who are helping in so many ways) are the tiny koalas which can be clipped onto clothes or bags. I have been talking with people from Oxford and Cambridge University Presses, as well as the American Mathematical Society (the European Mathematical Society to is still to come), about journal publishing. Two of the three international reviewers who visited Australia in February for the Strategic Review of the Mathematical Sciences are here, and I have discussed the review with both of them separately, and hope to get them together tomorrow to find a consensus on what the final version should look like. It's a bit depressing to think about the problems of the mathematical sciences in Australia again, but from here, at least, the sense that there is a vibrant international mathematical community, which is pushing the frontiers, in theory, modelling and computation, in almost unimaginable ways makes me able to say, for the first time in quite a while, that I am delighted and proud to be a mathematician, to be a member of this great energetic mass of individuals and teams of people who are doing such exciting work, and that this ICM has given me a big picture of modern mathematics that I have not received from the many more specialised conferences that I have attended. I'm already planning to go to Hyderabad, India, in August, to the 2008 ICM, and I encourage all those who have read this far to do the same. You will never regret it!

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