Mathematical aspects of evolving interfaces

Workshop on Partially Known Matrices and Operators

The Council also supported the intention of submitting a proposal for a Thematic Term on "Semigroups, Algorithms, Automata and Languages" in the year 2001 expressed by Jean-Eric Pin, University of Paris 7, Gracinda M. S. Gomes, University of Lisbon and Pedro V. Silva, University of Oporto.

Great Moments in XXth Century Mathematics

We have posed the following question to several mathematicians:

If you had to mention one or two great moments in XXth century mathematics which one(s) would you pick up?

The choices of Professor Gareth Jones (Faculty of Mathematical Studies, University of Southampton, United Kingdom) are given below.

For me, one of the highlights of 20th century mathematics was the classification of finite simple groups, eventually achieved (apart from a few details) around 1980. As a research student in Oxford in the late 1960s, I was there when visitors like John Conway, Don Higman and Charles Sims were constructing their new simple groups, while others such as Dan Gorenstein and John Thompson were making great strides towards classifying them. This result turned finite group theory on its head: instead of working with axioms, group theorists could now prove results "by inspection". The result itself is also fascinating: as well as the uniform families of simple groups, which mirror the classification of simple complex Lie algebras, there are the 26 sporadic groups, a wonderful adventure playground for those interested in combinatorial phenomena, and also number theory in the case of the Monster group.

Another highlight must be the period, in the 1930s, when Church, Gödel, Turing and others produced their results on undecidability, incompleteness, etc. This destroyed for ever Hilbert's dream of using logic to build a completely sound edifice of pure mathematics, but it also opened up a whole new area of common ground between these two subjects, and eventually computer science.

Finally, for a single personal achievement, I must include Andrew Wiles's courageous assault on the Taniyama-Shimura Conjecture, with its stunning corollary of Fermat's Last Theorem. To be able to announce, during an undergraduate lecture, that what was last term a major unsolved problem was now, apparently, a theorem, has been one of the great pleasures of my teaching career. However, I suspect that Wiles's greatest achievement has been to draw together so many different branches of mathematics, a theme that has dominated the last few decades of this century.

Gareth Jones's research interests lie in the field of group theory and its applications. He is the author of about 45 research papers, and books on Complex Functions (with David Singerman) and Elementary Number Theory (with Mary Jones).

An Interview with José María Montesinos

I still remember the talk you gave during the fifth GMEL conference, in the summer of 1985. Was that your first time in Portugal? Have you been back since? If I am not mistaken, you are of Portuguese origin?

No. In 1972, I was in Lisbon for the Jornadas Luso-Espanholas de Matemática, where I gave a talk based on the work in my Ph.D. thesis. There is an amusing little story about that talk, of which I only became aware around two years ago. I heard it from a friend at a Spanish university, who is approximately my age. This friend was at my talk with some fellow students and a professor who was their supervisor. At the end of the talk, the professor gathered his students together and told them:

- Don't believe a word he said! This guy is a bluff!

It's lucky that I only heard about this two years ago. If I had known about it at the time, my career in mathematics would probably have ended there and then. This anecdote shows, among other things, that low dimensional topology was completely unknown in Spain at that time, as I assume it was in Portugal.

I returned to Portugal in 1982 for a course on the theory of knots and manifolds at the University of Oporto. I attended the GMEL conference in 1985 and I am here again now.

My father is from Calabor, a village on the border, very near the Portuguese village of Montesinho. My surname clearly stems from the name of that Portuguese village and the villagers in Calabor recall that Calabor once belonged to Portugal and was exchanged for a Spanish village in the 17th century when the frontier was being altered.
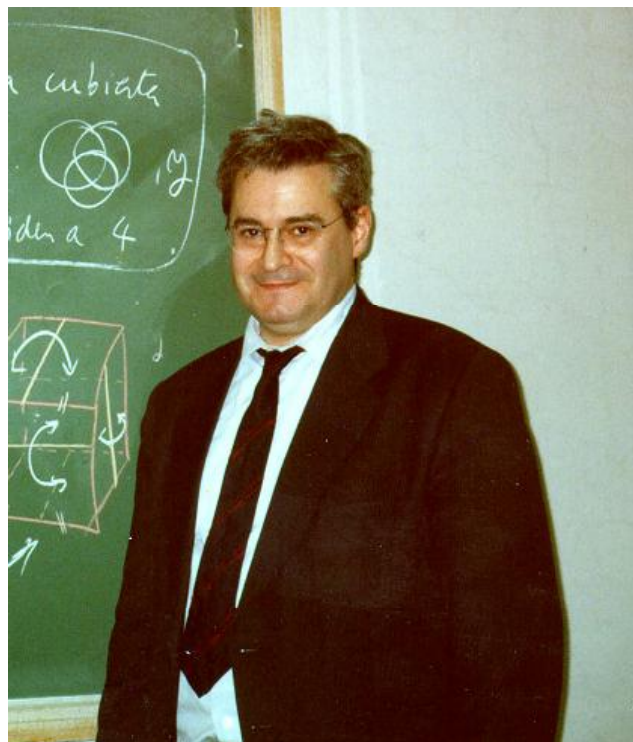
José María Montesinos

I can therefore claim to be, in a manner of speaking, Portuguese.