PROFILE

Felipe Voloch

José Felipe Voloch is a high-flying number theorist who grew up in Rio de Janeiros famed beach suburb, Copacabana. He has over 100 publications in refereed journals including the Annals of Mathematics and Inventiones Mathematicae documenting fundamental contributions to Arithmetic Algebraic Geometry as well as applications to Cryptography and Coding Theory. He has held continuing (tenured) positions in three countries, and all of this despite the fact that he is a university dropout.

It was while studying for university entrance exams that Felipe first developed a taste for mathematics, which until then had come easily to him but never stimulated much interest. He studied undergraduate mathematics at PUC (Pontifícia Universidade Católica) and, concurrently, began working towards a Masters degree at IMPA (The Instituto Nacional de Matemática Pura e Aplicada). He was awarded the Masters, but without ever completing his undergraduate degree. He went on to Cambridge, where he completed a certificate of advanced studies (Part III) and a PhD under J.W.S. Cassels.

His doctoral work concerned the number of solutions to polynomial equations over finite fields. The results, published jointly with Stöhr in the Proceedings of the London Mathematical Society, led to a new proof of the Riemann hypothesis for curves over finite fields and yield several improvements on it. It remains his most cited paper to date, still attracting several citations each year. The thesis itself was defended in 1985, outdoors on a sunny afternoon in Londons Hyde Park. Felipe and the examiners, Charles Matthews and Bryan Birch, had been attending a conference to honour Roth on the occasion of his 60th birthday, and Birch had insisted it was too nice a day to pass up the opportunity to be outside.

Following his PhD Felipe returned to Brazil, accepting a tenure track position at IMPA where he worked from 1985 1992. He was awarded tenure but due to the declining economic situation in Brazil, decided to explore his options. He spent most of 1991 on sabbatical at Berkeley, where he collaborated with Coleman to prove a conjecture of J-P. Serre concerning Galois representations associated to modular forms. In 1992, he joined the vibrant number theory group headed by John Tate at the University of Texas at Austin, where he was promoted to full Professor in 2000.

Since its inception Felipe has been an active participant in the MathOverflow community, which he says is addictive and takes up too much of his time. Nonetheless he is supportive of anything that expands the mathematical community and facilitates collaboration. (Ironically, one of Felipes most celebrated answers on MO is about the least collaborative mathematician Lucien Godeaux who has published 600+ papers with 0 coauthors.)

In February 2016 Felipe was appointed Professor of Mathematics at the University of Canterbury. While newly arrived as an immigrant, he has had an enduring relationship with NZ for decades through his wife Jane who is a kiwi. The two met while Felipe was at Cambridge and she was working for a publishing company in London. They were married in Christchurch in 1988 and they were here on 22 February 2011 when the earthquake struck. Together they have a daughter, Sofia, who has recently moved to Rio de Janeiro. While we may owe our good fortune of having Felipe in the NZ mathematical community to Jane, Felipe jokes that Texas open carry laws and the declining political situation in the US also contributed to his move. Apart from inexplicably wearing an Argentine Pumas jersey from time to time, he is happily adapting to the easy living in NZ.

Felipe describes a mathematical proof as merely a way of convincing your friends that something is true. This description evidences his collaborative spirit and belies the depth of his work. The New Zealand mathematical community will surely be enriched by his presence and it is a pleasure to welcome him as a colleague, a collaborator, and a friend.

Brendan Creutz