

My name is Katie Chandler and today I'm speaking with Barry Green, Editor of [*Quaestiones Mathematicae*](#). [*Quaestiones Mathematicae*](#) is the journal of the [South African Mathematical Society](#), and is co-published on their behalf by [NISC Publishing](#) and Taylor & Francis.

Please could you explain a little about the background of *Quaestiones Mathematicae* and how you came to be involved with the Journal?

BG: The Journal started in 1976 or 7, so I wasn't involved from the beginning. In fact, I only became involved about 1988. There were really 3 people involved when I first started, Prof Wesley Kotze (Managing Editor), and Proff Koos Grobler and Jan Fourie (Associate Editors). I had returned from Germany, I had spent 10 years in Heidelberg working as a researcher and so I was interested in the development of mathematics in South Africa. This was also because South Africa is slightly isolated and I wanted to become involved and to contribute and so met up with Wesley. After a year or 2, when the Journal was struggling, he asked me if I'd like to join them on the editorial team. That's how it started off. They were really struggling because it was a society based journal, everything was funded by the society and so it wasn't run on a business model. The members paid for the production and other costs and automatically got copies, which other libraries would purchase. Ever since the journal started there was also the sense of South African Mathematicians wanted to have their own mathematical journal, which would be a forum for its member but also invite other international specialists and activity to the area.

KC: and is the Journal still the journal of the SAMS?

BG: It is still the Journal of the SAMS, and as Editor I am a co-opted member of the council of the society and report to them. Although the Journal has operated independently, it's still subject to the council's approval in certain areas, such as appointing editors, or appointing editorial board members and those sorts of things.

KC: What have been the biggest developments you've seen since taking on the Editorship?

BG: Well I think the biggest thing is the work of my predecessor Wesley Kotze to get the association with NISC and then to have the journal running in a very stable way without severe financial concerns. This is because it's been operated as a normal journal, one of a suite of journals NISC offers. As it is published by NISC members don't receive the journal automatically, it is not based on members subscriptions, its subscriptions are based on people purchasing out of interest or particularly libraries. Some of the biggest developments for me were to try and get a broader editorial board, then of course getting an ISI rating, which was important in the climate we are for publishing nowadays. This year we went over to the online submission system, and that's beginning to work well, although getting everybody used to the system takes a little while. There has been a time of changeover, with the previous associate editors retiring or resigning because, following years of service, they wanted to do other things. They've served the journal with distinction and now we've got a new team on board now and that's also exciting.

KC: How has this arrangement changed following the partnership between NISC and Taylor & Francis?

BG: There are 2 aspects, the one is the opportunity provided for online submissions. Which is really going to change my work - it has changed my work already. With ScholarOne Manuscripts online submission, Manuscript Central, this makes the work even more comfortable because there is a tracking system, emails are prepared once, which reduces the amount of work. There is some work in the beginning getting people used to this system. So this is how it affects me directly.

Indirectly, NISC being part of a larger group, having a relationship like that has helped us by being linked into a bigger stable of publication media which provides information and opportunities for editors to share experiences. At some of the librarians meetings I've been to it's been very interesting to get feedback on publication trends, particularly international trends relating to the dissemination of information is concerned. And of course there is another issue where this will be of assistance, although this is a tricky issue for journals, namely the integrity of the publication. This was brought up at the International Congress of Mathematicians in Bangalore in India this year and documentation was even given to Editors to assist them in best practice. So this is something that I'm grateful for, and I'm also grateful for the faculties provided by the publishing house which assist in that. All our papers are peer reviewed, with independent referees, but people are busy and sometimes they overlook things and therefore it is good to have some assistance in terms of software identifying potential problem papers. NISC has been able to obtain some of this software through its association with T&F.

The fact that there is electronic access makes a very big difference. And I think that making these journals readily available, affordable, maybe even available in certain parts of Africa without charge, is good for science. There are very few journals in Africa, which are internally recognised and which serve the local scientific scene but also integrate well into the international domain of mainstream science, and are of high quality. This is something we want for QM to keep, to make 100% sure that we are really competitive, interesting, attracting good papers. We would like to be available as broadly as possible. For this it helps to be an online journal, and of course through this there are ways of making QM accessible in an African context too.

KC: You are based at the African Institute for Mathematical Sciences, which has recently been awarded US\$2 million by Google for its Next Einstein Initiative. Could you explain a bit more about this initiative?

BG: The AIMS project was developed with the belief that Africa has profound problems but in fact it needs to Africans to solve them. Mathematical science particularly is one of those areas where through training and development you can really make a difference. It is cross-cultural, whether you are Madagascan or Ghanaian, $2+2$ is 4 [as Neil Turok recently mentioned in a speech when accepting the 2010 South African Mathematical Society Advancement in Mathematics Award]. On the other hand it also has a huge input into most scientific activity, so AIMS is a broad mathematical sciences research and educational institution and has been operating since 2003. It has graduated 305 students, of whom 120 have gone on and successfully completed Master's degrees, some of whom have gone on and completed PhDs. Many are still busy with PhDs and Master's degrees and about 70% of them are still in Africa. So it's been a real success story. It's not meant to be a model in competition with universities, it's meant to be in collaboration with universities, and this project,

the centre we have, is a collaborative project with the 3 local universities, Cape Town, Stellenbosch, Western Cape and with Oxford, Cambridge and Orsay as international partners. So there are a number of international universities who are also involved too. All our students are live and work at AIMS, it's a pan-African initiative, with a unique programme which emphasizes problem solving and computational skills development, and learning more so than teaching, OK, so it's very interactive. We select from all over Africa, we've selected 55 students this year, and about 1/3 are women and we've tried to balance the various mathematical sciences, such as maths, applied maths, computer science, statistics and physics, theoretical physics. And because this has really caught the imagination of a number of people and because of the success it has had, it has received, and is receiving a lot of support elsewhere such as the award we've received from Google, but also the award, which is far bigger award in fact, that we've received from the Canadian Government over a five year period of 20 million Canadian dollars. The plan is to develop similar institutes under the heading of the AIMS Next Einstein Initiative, with the idea that the next Einstein might be one person, might be a group of people, might be a man or a woman but could possibly come from Africa – our belief is that Africa has enormous potential and it needs to be empowered to do that. This really has a very tangible effect, developing the scientific backbone within the different countries in Africa. People are imaginative, strong and will attack some of the problems themselves. One example would be keeping good statistics for disease spread or the roads or whatever.

KC: What are the future plans for the development of AIMS?

BG: So we are planning to open a centre next year, plans are well advanced, this will be our 3rd centre which will be opened in Senegal. There is already another one that's running slightly independently but on the same type of model in a postgraduate science and technology university in Abuja in Nigeria. Plans are underway which we hope will lead to the opening of an AIMS Centre in Ghana in two years time and then later in Ethiopia. Many other countries are approaching us for similar centres. The idea is to have a common brand and local ownership but buy into the brand for scholarships and so on. So there are some non-negotiables in terms of our model, but of course there are some things you have to be flexible with depending on the local environment. So this is exciting. The other night I was at a congress of the SAMS where there the founder Neil Turok and the first director Fritz Hahne jointly received the award for the advancement of mathematics in South Africa, but if you looked in to the audience of 250 delegates, there might have been about 60 postgraduates attending and of those about 40 were former AIMS alumni, so it's really changed the graduate landscape in South Africa as well. So we are sure we can make a difference, you are speaking to me but the greatest recommendation really comes from our students who tell their stories, some are of amazing strength in adverse circumstances, but with the desire to grow and to be successful, so that is always the heartening side to it.