

## World Mathematical Year 2000 in South Africa (WMY2000 in S A)

The essence of what follows comes from a draft report that was circulated to the South African Mathematical Society Council members, the International Mathematical Union Committee of S A and the WMY2000 Committee of S A.

### What was WMY2000 all about?

The International Mathematical Union (IMU) (with support by Unesco), of which South Africa is a member country, declared the year 2000 to be World Mathematical Year (WMY2000). The declaration had three aims in mind, viz.

1. The great challenges for the 21st century
2. Mathematics, a key for Development
3. The image of Mathematics

All the aims of WMY2000 are of great relevance and importance to South Africa. Mathematics impacts on the growth of Science, Engineering and Technology. It is fundamental in the growth of our nation. What are the *great challenges* (see aim 1.) facing us in the new millenium when it comes to Mathematics Education, Research and Development? One can view this on an individual basis, as a group or the country as a whole. What is our agenda regarding Mathematics Education and Mathematical Research for the future?

Mathematics directly impacts on the social, economical and industrial growth of a nation. What has Mathematics contributed to our nation in the past? What is it contributing at present and what will be its contribution in the future? Verily, Mathematics is a *key for development* (aim 2.). The value that Mathematics adds is usually not seen. What is seen is the end-product that arises – Mathematics is the ‘invisible achiever’. Is S A producing enough ‘nonacademic’ mathematical scientists to take their place in finance and industry?

The *image of Mathematics* (aim 3.) has suffered to a certain extent – many remember it as a boring school subject that they barely could pass. Yet its beauty and applicability is beyond question and one can ill afford not knowing enough of it. What do we have in place to counter the negative image of Mathematics?

The international logo for WMY2000 (see top right hand corner of this report) was obtained from the website:

<http://www.math.jussieu.fr> or

<http://elib.zib.de/IMU>

The logo was modified for most S A WMY2000 activities and included Africa (which appeared in the University of Pretoria PACOM2000 website administered by Professor J Engelbrecht and his team) and even South Africa.

WMY2000 was celebrated internationally and there was an international committee in place, namely the IMU Committee for the Year 2000. There were various activities that took place, including TV series, exhibitions, library and museum displays, visibility campaigns in the media and the awarding of medallions. Some of the worldwide activities could be accessed via the above websites. The Notices of SAMS (April 2000) also carried some of the WMY2000 agenda.

South Africa too has been actively involved in organising events to mark WMY2000. Efforts to date have been mostly through the S A Mathematical Society (SAMS), the Association for Mathematics Education of S A (AMESA) and the S A Mathematics Olympiad (SAMO), with assistance from the Departments of Education and Arts, Culture, Science and Technology. We had in place the IMU Committee of S A which had members from AMESA, SAMS and SAMO and WMY2000 in S A was under the auspices of the IMU Committee of S A. The WMY2000 Committee of S A comprised

Mr A Brombacher (AMESA, aarnout@brombacher.wcape.school.za),  
Mr J Hendrik de Kock (SAMO, JHdeKock@beauty.hsrc.ac.za),  
Dr A Harding (SAMS, ameiring@scientia.up.ac.za),  
Prof Fazal M Mahomed (SAMS, fmahomed@cam.wits.ac.za),  
Dr E Momoniat (co-opted, ebrahim@cam.wits.ac.za).

### **WMY2000 Activities in S A**

The following activities have taken place:

Pan African Congress of Mathematicians, PACOM2000 at UWC in Jan 2000 (joint Africa Mathematical Union (AMU), SAMS and AMESA Congress).

Pan African Mathematics Olympiad PAMO2000 for the top African high school mathematics students at UWC in Jan 2000 (PAMO under AMU).

*[PACOM2000 and PAMO2000 inaugurated activities for WMY2000 in S A.]*

Visibility campaigns in the SAMS and AMESA publications (in the Notices of SAMS and Newsletters of AMESA).

Letters on WMY2000 aims and possible activities that could be done to celebrate WMY2000 to SAMS and AMESA membership (by F Mahomed and A Brombacher).

Talks at S A Universities by F Mahomed (at Wits, UCT, UWC; informal discussions at North-West, Natal and with Pretoria mathematicians; IMU Committee of S A discussions involving AMESA and SAMS members; AGM during SAMS Congress at the North in July 99); SAMO discussions by Hendrik de Kock; also AMESA discussions by Aarnout Brombacher).

Talks by Dr A Harding of the University of Pretoria on the 'Calendar' at Pretoria.

Talk on 'Symmetry' by F Mahomed at the FRD, Pretoria in December 1998.

Other interest groups in S A, including individuals, bus school, student groups and teacher groups have been involved in WMY2000. [Several correspondences received. The WMY2000 newsletters and posters were distributed].

Scifest 2000 Millenium Mathematics Marquee, April 2000 (interactive mathematics festival with mathematical activities for everyone; organised by AMESA).

Fax and e-mails by F Mahomed to DACST and Education ministries (to ministers Professor K Asmal and Dr B Ngubane, Mr E Williams (Education), Dr E Tyobeka (DACST)) informing them of WMY2000 activities and requesting support.

Letter by Professor D Reddy, Chairman of the IMU Committee of S A to minister Professor K Asmal to declare a Mathematics Week during 16 – 22 October 2000 week.

To place much needed focus on Mathematics and its Applications, a *Mathematics Week* was declared during, 16–22 October 2000. This was supported by Minister Professor K Asmal in response to the letter of Professor D Reddy.

Third Hanno Rund Conference on Differential Equations and Applications at the University of Natal, Durban during 13 – 16 Sept 2000.

<http://duck.cs.und.ac.za/maths/hrc3/index/html>

S A Mathematics Society Congress (SAMS) at UNISA during the Mathematics Week 16 – 18 Oct 2000.

<http://maths.unisa.ac.za/sams>

Ufa-North West in cooperation with Wits International Conference on Modern Group Analysis for the New Millennium during 27 Sept – 3 Oct 2000 [joint S A and Russia Conference]. Five S A mathematicians attended.

<http://www.math.ugatu.ac.ru/mogran2000>

AMESA Mathematics Challenge 2000 for grades 4 – 7, during Mathematics Week, 16 – 22 October 2000. This was a national mathematics competition for primary school students.

Chief Organiser, Sarie Smit, email: [ssmi@akad.sun.ac.za](mailto:ssmi@akad.sun.ac.za),

Director of Research Unit for Mathematics Education (Stellenbosch University), Alwyn Olivier, provided information on the nature of the Challenge, email: [aio@akad.sun.ac.za](mailto:aio@akad.sun.ac.za)

(website <http://www.wcape.school.za/malati/Challenge.html>).

Also AMESA organised the event *Internet Mathematics Challenge* during the Mathematics Week. Teachers and pupils participated online on mathematical activities. Moreover, AMESA hosted workshops on ‘Family Maths’.

Wits TV launched a 20 minutes documentary on ‘Ancient Dreams in Modern Times: Mathematics in our African heritage’. Contact Wits TV or Dr C Getz (Wits, tel: +27 11 7176243).

The National Science and Technology Forum (NSTF) held a consultative conference on Science, Mathematics and Technology Education Strategy during 11 – 13, September 2000 at the Eskom Conference Centre, Johannesburg. Information on WMY2000 in S A was sent to Ms W Eksteen (Secretariat, DACST). Also it was pointed out to the delegates at the opening of the conference that this year was WMY2000 .

### **Radio and TV slots for WMY2000**

There were planned radio slots for mid-October 2000 (during the Mathematics Week, 16 – 18 Oct 2000). There were two interviews during the SAfm morning live show to create awareness for WMY2000 in S A. Both were conducted by J Perlman who interviewed F Mahomed. The first

went on air on 19 Sept 2000 at 08h10. The second interview was live on air at 07h50 on 20 Oct 2000 during Mathematics Week. The aims of WMY2000 were stated on air. Many people all over S A responded to both of these interviews.

The slots for SABC TV were requested. Unfortunately, nothing came of them. Five people at TV were contacted without any positive response.

### **Newspaper articles on WMY2000 in S A**

Weekly Mail and Guardian article dated 7 – 13 Jan 2000.

Article in the DACST newspaper ‘Teacher’ on WMY2000, its aims, the AMESA Mathematics Challenge 2000, the SAMS Congress at UNISA during Mathematics Week 16 – 18 Oct 2000.

Many queries on WMY2000 in S A resulted out of these articles.

The Sunday Times was also informed of WMY2000 activities in S A.

### **Other Awareness Campaigns**

Another aspect was popular lectures by mathematicians. Some of these were realised at the PACOM200 Congress at UWC in Jan 2000 and the SAMS Congress at UNISA during 16 – 18 October 2000.

### **Ministries of Education DACST involvement in WMY2000**

Both the ministers, Dr B Ngubane and Professor K Asmal positively responded to the letters on WMY2000 sent to them. They fully supported WMY2000 activities in S A. In particular, Dr E Tyobeka of DACST and his secretariat replied favourably by publicising WMY2000 activities in the ‘Teacher’. Also, the NASTEF (NSTF Inside) Newsletter of Sept 2000, Issue nr 3, had in its Focus section information on WMY2000 in S A.

### **Gold Medals for WMY2000 in S A**

Rand Merchant Bank and Asset Management (RMBAM) funded 200 gold-plated medals for World Mathematical Year 2000 activities in S A.

The medal design has the WMY2000 logo plus a map of Africa emphasising S A; also the words: ‘World Mathematical Year 2000’ around the circumference as well as ‘Mathematics - a key for Development’ (this is one of the aims of WMY2000) on one side. The other side has the logo of RMBAM and ‘World Mathematical Year 2000 in S A’ around the circumference of the medal.

The WMY2000 Committee of S A under the auspices of the IMU Committee of S A, thank RMBAM for their generous support in the funding of medals for WMY2000 activities in S A. Special thank yous to Professor D Taylor of Wits for his help in securing these funds and the Wits Media Office for advice.

The medals sponsored by RMBAM have mainly been divided into three parts: AMESA (110), SAMO (36) and SAMS (39). Also 4 medals were given to W Rahman for the Pietersburg Mathematics Camp during October 2000 and 10 to V Naidu and S Hansraj for Mathematics Competitions in Kwazulu-Natal for November 2000. RMBAM were provided with 1 medal for their files.

AMESA and SAMO organised presentation ceremonies to award the WMY2000 medals. The main SAMO presentation ceremony was held on the 14th of October 2000 in Pretoria. The WMY2000 medals were presented to national olympiad winners as well as people involved in SAMO activities. The aims and spirit of WMY2000 in S A were pronounced towards the end of the ceremony.

One medal was presented at the SAMS Congress at UNISA as part of the SAMS Distinguished Award. This went to Professor J Webb of the University of Cape Town. Notwithstanding, the SAMS WMY2000 Gold Medal Award Committee has called for nominations in October 2000 for the SAMS WMY2000 Gold Medal Awards. This was circulated by e-mail and the criteria was published in the Notices of SAMS, Vol. 31, No. 3, Dec. 2000. The award ceremony is likely to be in the first part of 2001.

Finally, we thank the membership of AMESA, SAMO, AMU, SAMS and the IMU Committee of S A for their support and suggestions. Special gratitude goes to the IMU Committee for the Year 2000.

Yours sincerely,

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