



SAIT Newsletter

2011 Annual General Meeting

The 27th Annual General Meeting of the SAIT was held on 10 May. The President's and Financial Reports were presented to the meeting and nine members were elected to the 2011-2012 Executive Committee. They are:

D P Beard; W de Chalain; J de Koker; S Pharo; J Fitton; D Gamble; S Mkwanzazi; T Surmon; P G Swan.

The first meeting of the new Executive Committee will be held in early June, at which allocation of portfolios will be made; this will be announced in the next edition of the Newsletter.

Half-Day Seminar: 'Synthetic Lubricants'

*Johannesburg, 7 June 2011
At The SAIT Offices*

On 7 June 2011 a Seminar on Synthetic Lubricants will be presented by ExxonMobil Chemicals, hosted and sponsored by Unichem Chemicals.

This seminar will be held at the SAIT offices, Science Park, 1 Northway, (off Marlboro Drive), Kelvin, Sandton.

Presentations will cover an introduction to synthetics, what they are, the different types, their benefits and applications, and their impact on savings.

The event will start at 08:30, end at 13:00 and will be followed by a light lunch.

Entrance is free, but for catering purposes, please contact the SAIT at 011 802-5145 or at secretary@sait.org.za, if you wish to attend.

Tribology 2011, 10th International Conference of The SAIT

Report by Prof. Philip de Vaal, Conference Chairman.

This event, which normally occurs at three-year intervals, took place over three days at the University of Pretoria's Conference Centre.

The South African Minister of Science & Technology officially opened the proceedings.



**Minister Naledi Pandor
Giving the Opening Address
at Tribology 2011**

Two guest speakers were invited: **Professor Kristian Tønder**, Professor Emeritus, The Norwegian University of Science and Technology, NTNU. (Formerly University of Trondheim, NTH); and **Professor Bharat Bhushan**, an Ohio Eminent Scholar and The Howard D. Winbigler Professor in the College of Engineering, and the Director of the Nanoprobe Laboratory for Bio- & Nanotechnology and Biomimetics (NLB2) at the Ohio State University, Columbus, Ohio.



**Minister Naledi Pandor,
With Guest Speakers
Professor Bharat Bhushan,
Professor Kristian Tønder,
and Prof. Cheryl de la Rey, Vice-Chancellor
and Principal of the University of Pretoria.**

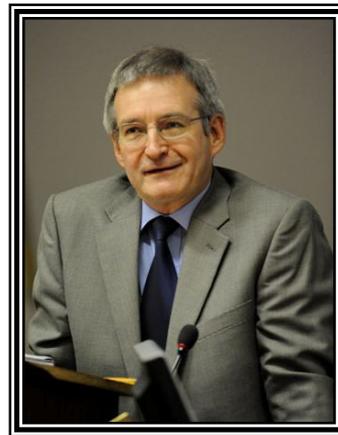
Professor Tønder's plenary paper, *Bearing Texturing: Possibilities and Limitations*, highlighted a number of important aspects regarding the practical design of bearings and how these relate to the performance of bearings, based on a sound mathematical approach. Of all overseas delegates, Professor Tønder has not missed one of our events – there must be a reason for this!

Professor Bhushan's paper gave an exciting and inspiring overview of cutting-edge technology, focusing on a very active field of research, with many practical implications, namely *Nanotribology, Nanomechanics and Materials Characterization Studies and Applications to Bio/Nanotechnology and Biomimetics*. Biomimetics is the study of how Nature develops systems and how this can be duplicated, or copied – in this case with a specific focus on surfaces and surface phenomena and this is why it is of importance to tribologists.

Professor Wilfried Bartz, one of our most loyal supporters from overseas, once again gave a very practical and relevant paper entitled *High Performance Greases - Definition, Formulation, Properties and Application*. The benefit of sharing in the lifelong experience of experts is often not valued as it should be.

Twenty-seven papers were presented, covering the wide field of Tribology. Of these, seven were presented by delegates from overseas, while the balance was contributed by local presenters. Contrary to previous years, no parallel sessions took place, primarily because of the smaller number of papers submitted and presented. It could be argued that this provided all delegates with the opportunity to attend all presentations.

In general, the quality of the papers was again of a high standard. Many of these papers addressed issues of relevance to industry and were of a practical nature. Papers that could be singled out were those by Charles du Bois, addressing the phenomenon of micro-pitting on gear surfaces; by Leslie Barker of Eskom, elaborating on substantial energy savings that can be made by proper selection of lubricants; and by Eben du Plessis who showed how Minimal Quantity Lubrication, (MQL) can be put to good use to address issues around the Environment, while at the same time ensuring substantial savings on the use of lubricants and simplifying many problems related to the handling of cutting oils and associated contaminants.



**Prof Philip de Vaal,
Chairman of Tribology 2011**

The afternoon of April 6th was devoted to technical visits. Delegates could choose between four possible visits, namely: to ThermaSpray in Midrand; to the Nuclear Energy Corporation of SA (NECSA) near Hartebeespoort Dam; to Ceradvance in Kempton Park; or a tour of the facilities related to Tribology in the Departments of Chemical Engineering and Metallurgical and Materials Engineering of UP.

During the conference, exhibitors displayed their presence and capabilities – again an essential component contributing to the success of the event.

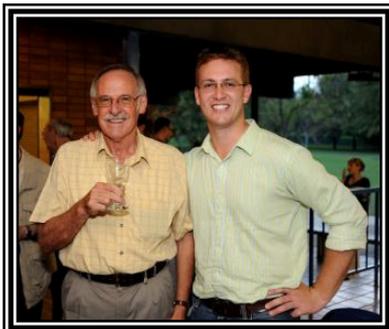
As a whole, the conference offered something for all, enabled discussion and the opportunity to network, which is an important reason for organising events like these.

**Conference-Related
Social Activities**

Speakers met at a convivial braai on Monday evening, 4 April 2011.



SAIT President, John Fitton, and long-standing SAIT Member, Charles du Bois, relax with a glass of wine.



Long-standing SAIT Member, Eben du Plessis, with University of Pretoria student, Gerhard Marais.



SAIT Past-President, Patrick Swan, with Wojciech Zurowski from Poland & his nephew, Dominic

A cocktail party was held on Tuesday evening, 5 April 2011 for all delegates to the Conference.



Prof Bharat Bhushan, his wife Sudha, with Prof Wilfried Bartz from Germany and Prof de Vaal.



Professor Natasha Sacks of The University of the Witwatersrand, with students Enoch Ogunmuyiwa, also from Wits and Emile Herselman and Herman Nortje of Stellenbosch University.



Anton Allner of Engen, one of the sponsors of the Conference, with Gerard Mohammed of Multisol.

SAIT Training Courses, 2011

A split **Lubrication Engineering Course (73)** will be held in **Johannesburg** on **26, 27 & 28 July** and **2 & 3 August**, and **Lubrication Engineering (74)** will take place in **Cape Town** from **15 – 19 August**.

Two one-day courses will be held in Johannesburg in September:

Introduction to Lubrication Engineering on 7 September and **Introduction to Wear and Materials on 8 September**.

For information and registration, please contact Gill or Isabel on either secretary@sait.org.za or admin@sait.org.za, or on 011 802-5145.

STLE - CLS, OMA & CMFS Exams & "SAIT CLS Study Course"

The South African Institute of Tribology will host the Certified Lubrication Specialist (CLS), the Oil Monitoring Analyst (OMA) and the Certified Metalworking Fluids Specialist (CMFS) examinations of the Society for Tribologists & Lubrication Engineers (STLE) on Friday 18 November 2011. The venue is Science Park and the time from 09:00 to 12:00. **The exam is open to SAIT members in good standing.**

The SAIT will present the two-day **SAIT CLS Study Course** (16 and 17 November) immediately before the exam to help prepare for it. Attendance is strongly advised, especially bearing in mind the imperial measurements that are used and the focus on steel industry lubrication. The course will be facilitated by a current CLS holder, and study modules can be made available before the course dates, if needed. The STLE exam standard is high and the pass mark is 70%. Global pass rates are around 50%. **Registration for the SAIT CLS Study Course closes on 30 September 2011.**

For further information please contact Gill Fuller at phone +27 11 802-5145, or e-mail her at secretary@sait.org.za.

Members' Case Study Competition

Members are invited to submit tribological case studies to be considered for publication in the SAIT Newsletter. Entries should be no more than 1 page.

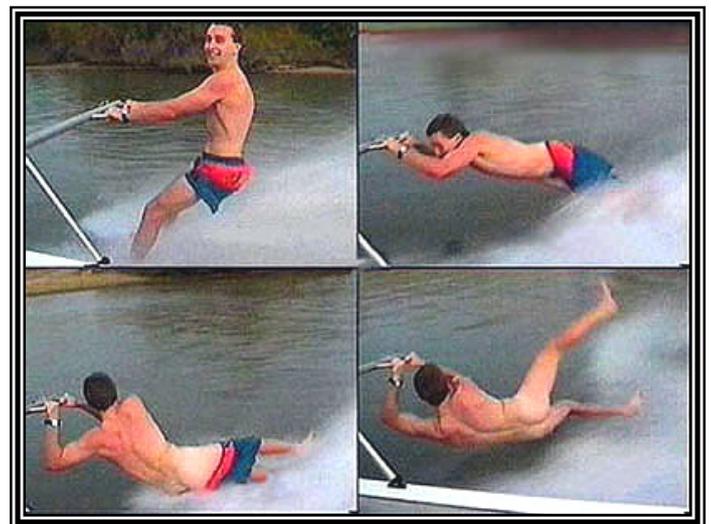
Those which are published will receive R400-00 in acknowledgement.



After 12 months a winning case study will be selected and the author will receive a voucher to attend the next SAIT Seminar free of charge.

Entries can be sent to secretary@sait.org.za. Submissions should be approximately 400 words or a page in length.

Tribology in Action



**Increased friction between water and skier
caused the unmentionable to happen!**

The **SAIMechE** offers training courses in many fields of Mechanical Engineering. Their website is www.saimeche.org.za.

Tribology-Related Study Centres At South African Universities

The **Centre for Materials Engineering at the University of Cape Town** is part of their Department of Mechanical Engineering. They carry out research, education and training in the field of Materials Engineering and are concerned with the physical, chemical, electrical and mechanical properties of ceramic, polymeric, metallic and composite materials. For further information contact them at 021 650-3172 or beverley.glass@uct.ac.za.

International Tribology-Related Events, 2011

Ecotrib 2011, Vienna, Austria: 7 – 9 June 2011. Go to www.oetg.at/ecotrib2011 for more information.

Education for Sustainability - International Greening Education Event 2011, Karlsruhe – Germany. 19 to 21 October 2011. for further information, go to event details at <http://www.etechgermany.com/IGEE2011.pdf>

International Tribology Conference, Hiroshima 2011: 31 October – 3 November 2011. E-mail nagamura@mec.hiroshima-u.ac.jp for further information.

VII International Conference, Lubricants Russia 2011: November 9 – 10 2011, Renaissance Moscow Hotel. To register contact Elena Konstantinova at Konstantinova.Elena@rpi-inc.com or go to <http://www.rpi-conferences.com>.

TAE 18th International Colloquium Tribology, Industrial and Automotive Lubrication: 10 – 12 January, 2012 in Stuttgart/Ostfildern, Germany. E-mail info@tae.de for further information; visit website www.tae.de/tribology/; phone +49 71-34008-0 or fax +49 711 34008-65