



Please note that the SAIT will be closed from 12:00 on 2 December 2011 until 09:00 on 9 January 2012.

We wish everyone a safe and happy Festive Season and a prosperous New Year.

SAIT Training Programme, 2012:

"Lubrication Engineering"

Five day course - 5 CPD credits

13-17 February	Johannesburg
14-18 May	Durban
11-15 June	Johannesburg
13-17 August	Cape Town

Cost: SAIT Members R7 980; Non members R8 949; Students R2 337

"Introduction to Lubrication Engineering"

One day course - 1 CPD credit

8 February	Johannesburg
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Cost: SAIT Members R2 394; Non members R2 508; Student R 700.

"Introduction to Wear & Materials"

One day course - 1 CPD credit

9 February	Johannesburg
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Cost: SAIT Members R2 394; Non members R2 508; Student R 700.

"Introduction to Lubricating Oils"

One day course - 1 CPD credit

23 February	Johannesburg
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Cost: SAIT Members R2 394; Non members R2 508; Student R 700.

In-house courses will be considered on request.

Programme subject to change.

For further information on any of these courses, please go to <http://www.sait.org.za/> or contact Gill or Isabel at secretary@sait.org.za or admin@sait.org.za.

To Wear or Not To Wear

By Isabel Bradley, SAIT Assistant Secretary.



Wear, as stated in the article, 'Science Friction' which appeared in the SAIT News, October 2011, is caused by friction. In every-day life, we see wear on just about every item around us. Scratches on furniture add to the value of antiques; microscopic scratches and dents quickly form on jewellery that is worn, bumped and rubbed daily; there are inevitably dents and scratches on cars; scratches and dents on cell-phones and i-pads and all sorts of technology; the letter 'M' is worn completely away on a computer's key-board from continual use; similarly the fast-forward symbol on the television remote-control is blank.

Since 'stone-washed' jeans became the height of fashion, manufacturers of denim jeans spend a fortune on deliberately fading and ripping their finished products. The more worn and faded these items appear, the more the fashion-conscious public is prepared to pay for them.

The human body contains joints which are, over time, subject to wear caused by repetitive action, aging, disease or injuries.

Misalignment of joints, whether in humans or machines, causes excessive wear.



Our world is wearing itself away each day: there is the obvious and devastating destruction of earthquakes and avalanches where huge rocks or chunks of ice slam into each other and into trees, buildings and people. Shapes are sculpted in rock by the continued violent pounding of sea and wind. Soil is eroded by flooding rivers and by wind in times of drought.

Cliffs at Etretat

The effect of erosive wear caused when the mining village of Kolmanskop was abandoned to the windborn desert sands in Namibia is very obvious.



The continual movement of feet, whether human or animal, wears paths in soil, rock, stone and man-made fabric such as carpets.

Wherever we look, there is wear.



For instance, if a little dirt, grit or dust infiltrates a bearing, the resulting damage can be dramatic, as is seen in the illustration below, causing the entire machine to fail.

Abrasive Wear because of grit in the bearing

Corrosive wear, as illustrated on the right, is caused by a chemical reaction, such as that experienced in Diesel Engines because of the use of oils rich in sulphur and ash.



Bearings and other engine parts are damaged by insufficient lubrication, or worse, no lubrication. This bearing ran for ten minutes without oil, with devastating effect.

In many cases, the damage caused by wear can be prevented or minimised, either by lubrication, or the application of various types of materials. But that, again, is another story and must wait for another article.

Pictures of wear dealing with engineering by Patrick Swan of the SAIT.

STLE - CLS, OMA & CMFS EXAMS & "SAIT CLS STUDY COURSE"



On 16 & 17 November, the SAIT held its CLS Study Course in preparation for the STLE CLS, OMA & CMFS Exams. Delegates were from Cameroon, Pakistan and Sudan as well as from South Africa. David Beard, the facilitator of the course, reported that participants were experienced, knowledgeable and interested, contributing to the course content and making it a very worthwhile experience for all.

The exams were held on Friday, 18 November and results will be received from the STLE in America in the New Year.



Delegates at the SAIT's CLS Study Course, 17 November 2011

To read another of Dave Scott's fascinating tribological articles, entitled **Matimba Lesson for Truckers** go to: [/za_members/23661/ftp/MATIMBA LESSON FOR TRUCKERS.pdf](#)

Poetic Tribology



By Gill Fuller, SAIT Secretary

with apologies to Kipling

Oh wear is wear and waste is waste
and always the twain will be,
unless tribology tunes your mind
into reality.

You can stop the wear, eliminate waste
if you study the relevant things.

You can lubricate, and prolongate
the life of your gudgeon pins.

Perhaps you should know, or get to know
the engine's torque and slack,
how additives ooze and silicones smooth
the problems under attack.

You should also bear the bearings in mind,
the failures, the cost and your plight.

If you take to the SAIT for training, you'll find
your problems are gone, you're alright.

So east is east and west is west
with all the faults that show,
but ideas evolve and problems are solved
as all tribologists know.

International Tribological Events:

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

UNITI Mineral Oil Technology congress 20 & 21 March 2012: Registration opened in October 2011. An early bird booking discount will be granted for registrations made before 15 December 2011. For further information go to the homepage at <http://www.umtf.de/> or contact Carmen Fogel at Fogel@uniti.de.

Keep your business moving ahead and be part of **ENEREXPO Vietnam 2012**. This valuable exhibition will be happening in **Hanoi, Vietnam from the 21st to the 23rd of March 2012**. Book your exhibition space today! Further information on ENEREXPO Vietnam 2012 is available on www.enerexpovietnam.com. To apply for a stand space at **ENEREXPO Vietnam 2012**, for information on affordable travel packages and for any other questions you might have, please contact Ms. Lisa Kuntze on: Tel: +27 (0)11 486 2775 or send an e-mail to: lkuntze@germanchamber.co.za.

The Institution of Mechanical Engineers' **Tenth International Conference on Vibrations in Rotating Machinery (VIRM10)**, will take place from **11-13 September 2012** - for further information go to www.imeche.org/events/c1326

Tribology In Action



A snake uses the friction caused by its rough scales pulling against the ground to move.