



“understanding friction, lubrication and wear”

SAIT News, January 2015

“SAIT TRIBOLOGY 2015”

The eleventh SAIT International Tribology Conference, TRIBOLOGY 2015, is scheduled to take place from 10 – 12 March 2015 at the University of Pretoria Conference Centre.

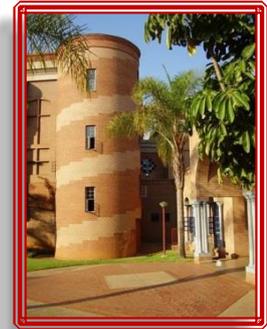
The main aim of the conference is to provide local and international participants with an opportunity to present their work, to exchange ideas and results, and to meet people with similar tribological interests.

The conference will be spread over three days, with the first and second days allocated to technical presentations, the middle day making provision for technical visits as well as technical presentations. As usual, the conference dinner will be combined with the SAIT's Annual General Meeting and prize-giving event.

About the Conference:

The conference promises to offer something for all interested in tribology, i.e. from matters related to lubrication and lubricants to wear processes and wear-resistant materials. A good balance of local and international speakers will be presenting their work and will include speakers from across the globe namely Australia, Cameroon, China, Colombia, France, Germany, India, Norway, Poland, Slovenia, South Korea, the UK and the USA.

Some of the topics to be presented:



Tribological Aspects of Water & Wind Power Plants; Friction Modifier

Additives; Utilisation of Lubricants in a Gyrotory Crusher; High Efficiency Lubricants for Hydrostatic Transmissions; Nanotribological Behaviour of Polysilicon Films applied in MEMS Devices; Measuring & treating varnish formation in turbine oils; EHL Analysis of Elliptical Contacts with Arbitrary Lubricant Entrainment; Gas engine reliability through oil analysis; Realising Fill-for-Life Industrial Lubricants; Understanding and Detecting Various Oil Degradation Mechanisms; Predicting Remaining Useful Life of your Lubricant; The effects of inertia in hydrodynamic bearings with surface texturing; Load-carrying capacity and impact wear resistance of coated tool steel – influence of fracture toughness; A computational fluid dynamic modelling and experimental investigation of surface textured partial pad journal bearings with cavitation effect; Effects of Lubrication on a Custom Manufactured Tungsten Carbide Grinding Wheel.

If you have not come across a topic that catches your attention, here is more:

The cause and effect of particle agglomeration in high pressure diesel injection systems; 2-Stroke Oil in Diesel; The Seven Rights of Grease Analysis; Cold Gas Dynamic Spraying of Wear resistant WC-based Coatings; Slurry erosion of WC-10wt%VC-12wt% Co Conventionally Sintered Alloys; Using micro-fluidics to control soft adhesion; Comparison of tribological Properties of Light-cured Polymer ceramic composites with different structures



“understanding friction, lubrication and wear”

SAIT News, January 2015

subject to Thermal Fatigue Procedure; Enhanced Open Gear Lubricants provide Tangible Benefits for Heavy Industry; Fuel oil quality assurance – are there merits in a user specific program?

Exhibition Space

Several companies will be displaying equipment at the conference. Exhibition space is available, and sponsorship is invited. Details are available from the Conference Secretariat.

*The invited guest speakers for the conference are **Professor Gwidon Stachowiak**, Head of the Tribology Laboratory, School of Civil & Mechanical Engineering, Curtin University, Perth, Australia, and **Professor Wilfred Tysoe**, Distinguished Professor, University of Wisconsin-Milwaukee, Wisconsin, USA.*



Professor Stachowiak's work covers a broad range. He has done groundbreaking research on advanced structural ceramics, fretting problems in wire ropes and the evaluation of novel surface coatings to mitigate wear. Professor Stachowiak and his team developed new angularity parameters for particles and surfaces, developed numerical

methods to characterize wear particles, followed by the development of automated wear particle classification methods based on their shape and surface texture.

Another area of research of Professor Stachowiak and his team has been bio-tribology with a focus on synovial joints, specifically knee joints. His research has led to the development of new computer-based image processing and classification methods for trabecular bone textures in X-ray images of the knee joints. His research has led to the detection and prediction of the onset of osteoarthritis from x-ray images of the joints.

He has authored or co-authored several books on tribology, including 'Engineering Tribology', a textbook of which the fourth edition was published in November 2013. Professor Stachowiak is a Fellow of the STLE and ASME and is the 2014 recipient of the Tribology Gold Medal – the world's highest honour in Tribology.

Prof Tysoe's research program focuses on understanding chemical reactions occurring at surfaces with particular emphasis on catalysis, tribology and on the formation of thin films with tailored properties. He is co-founder of the journal, Tribology Letters, a leading journal in the field.





“understanding friction, lubrication and wear”

SAIT News, January 2015

Work in the area of catalysis emphasizes understanding catalytic reaction pathways at a molecular level, focusing on the synthesis of vinyl acetate on palladium and gold palladium alloys and on understanding the molecular origins of chiral catalysis.

His group also investigates the frictional properties of lubricant additives that thermally decompose on the surface to form a solid lubricating film. This work has primarily focused on the way in which sulfur-,

phosphorus- and chlorine-containing molecules react since these types of molecule are often used as lubricant additives. The frictional properties of well-characterized thin films are explored in ultrahigh vacuum in order to correlate the physical properties of the films and substrates with the resulting frictional properties. They also investigate the electronic properties of metal-containing molecular wires to obtain a fundamental understanding of electron conduction at the nanoscale.

Delegates are requested to register before 15 February 2015

Registration forms for delegates can be obtained from the Conference Secretariat

REGISTRATION FEES:

The registration fee includes attendance at all conference sessions, the proceedings, lunches, teas, cocktail party, banquet, a technical visit and 14% VAT.

SAIT members R6 783

Non-members R7 467

Special Rates are available for students and for exhibitors.

CONFERENCE SECRETARIAT:

Mrs Gillian Fuller

Mrs Isabel Bradley

Tel +27 11 804-3710

Emails: secretary@sait.org.za
and admin@sait.org.za

Secretary

Assistant Secretary

fax +27 86 719-2261

website: <http://www.sait.org.za>

Travel and Accommodation Arrangements:

Sure Glenwood Campus Travel is the official travel agent for the conference. They will handle arrangements regarding accommodation, guided tours, places of interest and all pre- and post-conference tours and accompanying persons' programmes. They can also assist with international flights, and make tickets available at the airport of origin. Delegates could compare airfares offered from this side with the airfares they are quoted at their point of departure.



“understanding friction, lubrication and wear”

SAIT News, January 2015



Sure Glenwood Campus Travel
PO Box 36058, Menlo Park, Pretoria 0102
Cathy Broli: cathy@glenwoodtravel.co.za
Tel: +27 (0)12 362-5159 Fax: +27 (0)12 362-5160

Conference Sponsors:



SAIT Programme 2015

2 – 6 February 2015: 5-day Lubrication Engineering Course (94) – Science Park, 1 Northway off Marlboro Drive, Kelvin, Sandton, Johannesburg. This course is registered with ECSA, SAIMM number pending, and is awarded five CPD credits.

10 - 12 March 2015: SAIT Tribology 2015 - International Conference - University of Pretoria Conference Centre. For full details go to <http://www.sait.org.za/Tribology-2015/tribology-2015.htm>.

11 March 2015: The SAIT Annual Dinner and Awards Evening will be held as part of the Tribology 2015 Conference at the University of Pretoria's Conference Centre. Further details to follow.





“understanding friction, lubrication and wear”

SAIT News, January 2015

4 - 8 May 2015: 5-day Lubrication Engineering Course (95) – Science Park, 1 Northway off Marlboro Drive, Kelvin, Sandton, Johannesburg. This course is registered with ECSA, SAIMM number pending, and is awarded five CPD credits.

12 May 2015: 31st Annual General Meeting of the SAIT – Science Park, 1 Northway off Marlboro Drive, Kelvin, Sandton, Johannesburg.

25 - 29 May 2015: 5-day Lubrication Engineering Course (96) - Sica's Guest House, 19 Owen Avenue, Mayville, Durban. This course is registered with ECSA, SAIMM number pending, and is awarded five CPD credits.

6 - 10 July 2015: 5-day Lubrication Engineering Course (97) – Science Park, 1 Northway off Marlboro Drive, Kelvin, Sandton, Johannesburg. This course is registered with ECSA, SAIMM number pending, and is awarded five CPD credits.

24 - 28 August 2015: 5-day Lubrication Engineering Course (98) – Breakwater Lodge, V&A Waterfront, Cape Town. This course is registered with ECSA, SAIMM number pending, and is awarded five CPD credits.

14 - 18 September 2015: 5-day Lubrication Engineering Course (99) – Science Park, 1 Northway off Marlboro Drive, Kelvin, Sandton, Johannesburg. This course is registered with ECSA, SAIMM number pending, and is awarded five CPD credits.

26 - 30 October 2015: Provisional 5-day Lubrication Engineering Course (100) - Science Park, 1 Northway off Marlboro Drive, Kelvin, Sandton, Johannesburg. This course is registered with ECSA, SAIMM number pending, and is awarded five CPD credits.

18 - 20 November 2015: SAIT CLS Study Course and STLE - CLS, OMA & CMFS exams – Science Park, 1 Northway off Marlboro Drive, Kelvin, Sandton, Johannesburg.

Course Attendance: We ask that, should a delegate not be able to attend a course for which they have registered, they let us know as soon as possible, so that we can accommodate people from the waiting list. Delegates can phone either Gill or Isabel at 011 804-3710, or e-mail Gill at secretary@sait.org.za or Isabel at admin@sait.org.za. We will be happy to carry your registration forward to a future course at no further cost.

For further details of all the above, please contact Gill or Isabel at 011 804-3710 or e-mail either secretary@sait.org.za or admin@sait.org.za

International Tribology Events:



SAIT Tribology 2015 - International Conference - 10 to 12 March, University of Pretoria Conference Centre. For full details go to <http://www.sait.org.za/Tribology-2015/tribology-2015.htm>. To register as a delegate, download this

form: [/za_members/23661/ftp/documents/Delegate Registration Form.pdf](http://za_members/23661/ftp/documents/Delegate%20Registration%20Form.pdf) complete it and return it to secretary@sait.org.za



Malaysian International Tribology Conference 2015: 16 - 17 November 2015, Penang, Malaysia. See <http://mitc2015.mytribos.org> for full information.



"understanding friction, lubrication and wear"

SAIT News, January 2015
