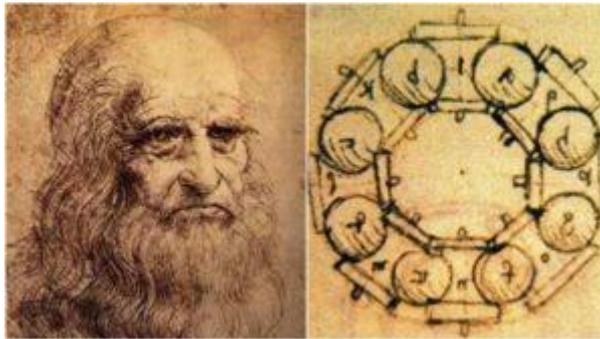




SAIT NEWSLETTER, DECEMBER 2017



1452-1519 the 'Da Vinci' impact

T RIBOLOGY is indebted to Leonardo Da Vinci - one of the first scholars to study friction systematically. His work on friction originated in studies of the rotational resistance of axles and the mechanics of screw threads. He focused on all kinds of friction and drew a distinction between sliding and rolling friction. At the end of the period (1493-1500) he was confident about the laws of friction, although the value ($1/2$, $1/3$, $1/4$ and $1/8$) he chose for the coefficient of friction varied considerably.

<http://www.tribonet.org/tribology-history/>

ETT – Essential Tribology Terminology

Grasp three of tribology's essential terms

- ✓ **Bore Polishing** The excessive smoothing of an engine cylinder bore surface to a mirror finish, resulting in impaired sealing and increased oil consumption.
 - ✓ **Carbon Residue** A measure of the coke-forming tendency of oil exposed to high temperatures according to the Conradson and Ramsbottom test.
 - ✓ **Catalytic Cracking** Process of breaking down the larger molecules of heavy oils into smaller ones by the action of heat, with the aid of a catalyst. In this way heavy oils can be converted into lighter and more valuable products (in speech generally abbreviated to cat. Cracking).
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SAIT TRAINING

Avoid the slippery slope of ignorance:

“LUBRICATION ENGINEERING”

Five-day course – 5 CPD Credits

Course Objectives: This course is designed to transfer a thorough understanding of tribology from a lubrication engineering perspective. Over 20 topics take participants through basic chemistry to the theory of rubbing contact and friction in all industrial applications including the application of management principles, safety and the environment in tribology.

2018 TRAINING CALENDAR:

LE 113: 19 – 23 February 2018, Johannesburg – **at 2017/18 rates.**
A few spaces still available.

NB: All other courses at 2018/19 rates.

LE 114: 7 - 11 May 2018, Johannesburg

LE 115: 21 - 25 May 2018, Durban

LE 116: 23 - 27 July 2018, Johannesburg

LE 117: 27 - 31 August 2018, Cape Town

LE 118: 8 - 12 October 2018, Johannesburg

For more information and to register for training please Ctrl + Click on this link:

<http://www.sait.org.za/events/training>



TRAVEL:

Jan, 9-11, 2018:

21st International Colloquium Tribology, Industrial and Automotive Lubrication Germany/Stuttgart, EU
Ctrl + Click to go to <https://www.tae.de/kolloquien-symposien/tribologie-reibung-verschleiss-und-schmierung/international-colloquium-tribology/>

Tuesday 4 – Friday 7 September

45th Leeds-Lyon Symposium on Tribology: Smart tribology Systems

Submission of initial 1 page abstract for oral presentation: 21 February 2018

Registration opens: 9 april 2018

For full information Ctrl + Click on

<https://engineering.leeds.ac.uk/leeds-lyon-conference>

17-20 September 2018:

ASIATRIB is the mega event in the series of International Tribology Conferences under the auspices of the Asian Tribology Council (ATC), the apex body of national tribology society of Asia Pacific countries. This conference is organized every four years with involvement from various universities and major industry players. You are cordially invited to participate in ASIATRIB2018, which will be held at Hilton Kuching, Sarawak – Malaysia.

Find the ASIATRIB2018

Prospectus at http://asiatrib2018.mytribos.org/PDF/ASIATRIB2018_prospectus.pdf

For further inquiries, please do not hesitate to contact us at asiatrib2018@gmail.com

DID YOU KNOW? – ‘A tribological tip-trip’

Did you know that brakes only slow down the rotation of a vehicle’s wheels – it’s contact friction of a tyre’s footprint with the road surface that really stops the vehicle? The running grooves in a tyre are there to displace water on a road surface and improve tyre footprint contact – tests by reputable tyre manufacturers indicate that tyre tread-depth plays a vital tribological role. Below 3mm tread-depth a tyre does not displace water efficiently and loses adhesion on a wet road. Even ABS braking systems rely on this vital factor of tribology to be effective in the wet.

TRIBOLOGY & THE ENVIRONMENT – environmental impacts can be calculated.

Current estimates are that the trucking industry burns some 38 billion gallons of diesel annually in the USA. That’s an astonishing 144 billion litres which when combusted at 2,64kg/litre equals 380 billion kilograms of CO₂!

Using OEM spec latest lubricants can reduce fuel consumption by up to 2% - that would be a reduced environmental impact of 19 billion kg of CO₂ – leaving the Paris Climate Change Accord for political reasons does not make sense.

STLE’s 2017 Report on Emerging Issues and Trends in Tribology and Lubrication Engineering

This report builds on industry research first conducted in 2014. Research included approximately 15 interviews with industry experts to identify new areas to investigate or trends to explore further, followed by a literature review of recent industry publications, conference abstracts and other materials. A survey launched in April 2017 collected more than 900 respondents from professionals across the tribology field; data was shared with about 30 industry experts to provide context and narrative to the quantitative findings.

Key findings in the report were divided among several categories that fall under two key headings: Field Discipline Areas, which provides an in-depth look into trends and technologies in the areas of transportation, medical/health, energy, manufacturing, communications and data management and atomistic processes, and Field Issues, which looks at critical factors affecting the industry: outlook on the field, government regulation, safety and the environment and basic human needs.

http://www.stle.org/files/Technical_Library/White_Papers/Emerging_Issues_and_Trends/files/White_Papers/Emerging_Issues_and_Trends.aspx?hkey=477ba040-218e-4c31-ae6a-6657dd246140

PARTING-SHOT

Lubricant quality is critically important from a total cost of ownership and energy efficiency perspective, yet there are no mandatory minimum standards in South Africa. The East African Community (EAC) is doing something about it and is attempting to harmonise the standards across the region for the past 11 years. They also encourage the use of higher specifications – ALI CJ-4 for diesel engines and API SN for petrol (gasoline) engines. For more information, Ctrl + Click here:

<http://viewer.zmags.com/publication/55156322#/55156322/36>
