

STLE 2009 Annual Meeting

The annual Society of Tribologists and Lubrication Engineers (STLE) meeting was held from 17 to 21 May in Orlando, Florida. Over 300 presentations were made in the four days along with numerous exhibitors and networking opportunities.

Every year more than 1 000 Tribologists and lubrication engineers gather to network and share thoughts on issues ranging from aerospace, engine and drivetrain design through to tribotesting and wear. The meeting was held in Orlando, in the USA this year and was well-attended despite the global economic turndown and scares of swine flu.

Due to the number of papers presented in up to 11 parallel sessions, it was not possible to attend all the presentation and discussions but only a select few, some of which will be highlighted here.

One aspect that was discussed was the developments in fluid power system designs where improvements in hydraulic motors, pumps and metering devices valves are being studied. As much as 44% of the input energy can be lost through metering devices and hence this is an area that is being focused on for improvement. Further, the importance of multigrade hydraulic oil over a wide operating temperature as well as the impact of polymer used in the formulation on pump wear were discussed.

Issue around varnish

Another topic that attracted great attention was the whole issue around varnish in hydraulic and turbine systems. Aspects that were addressed ranged from measuring the varnish potential of a fluid via condition monitoring, handling the fluid in service via filters and the environment, to formulations using additives and base stocks. Sludge formation and lubricant oxidation is a major thrust with group

II and III, not being as bad as group I base oils, but with reduced solvency being a fairly new area of concern and development.

A number of papers were presented on the friction (power) losses in gears and how to better understand the influences from a boundary film and formulations to improve the energy efficiency of the gearbox and increase the life and hence total cost of ownership of the system.

There was a lot of interest in the future of nanotribology; working at that level to understand friction and friction-reducing additives which form a third body on a metal surface. In the past additives were considered to be a way to reduce wear, but now they are considered to be friction-reducing additives.

International pressures

Engines are becoming more and more efficient, due to the international pressures to reduce CO2 emissions and hence the need to improve efficiencies. One such aspect that was addressed was the improvements that can be made in the liner surface for low friction piston ring packs. This is because the mechanical losses in an internal combustion engine can consume approximately 10% of the total energy of the fuel and the piston: piston ring pack and bearings areas are the largest contributors. Through accurate and meticulous machining as well as engine run-in, the engine efficiency can be improved.

Furthermore the overall engine life is dependant on the actual bedding in process. Approximately 60% can be attributed to the run-in process; 10% to oil and additives and 30% to manufacturing tolerances.

Gone are the days when engines needed to be run-in over 100s of kilometres, now it is done rather quickly over high loads.

It is very worthwhile for all Tribologists and lubricating engineers to attend these meetings and I



Patrick Swan



John Fitton has been made the new President of SAIT

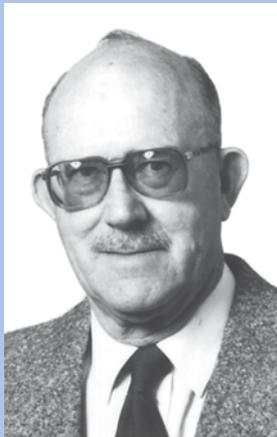
hope to see more of you at the next meeting (65th) from 16-20 May 2010 at Bally's Las Vegas Hotel & Casino, Las Vegas (USA).

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Vincent Edmund Darby

22 February 1920 to April 2009

We are sad to report the recent death of Vince Darby in Canada, and remember him with great affection and respect.



Vincent Edmund Darby

After a five year apprenticeship in fitting and turning with Van Dyk Consolidated Mines, and a BSc (Eng) degree from Rand University, Vince joined the South African Railways and Harbours. In 1951 he joined Mobil Oil Southern Africa and was with them for some 34 years, first in the lubricants technical department until 1960, and later the sales department, becoming Commercial Manager (Mines and Industries) in 1965.

In 1973 he became involved in project management, working on new products including a joint development with the Chamber of Mines of a 5/95 hydraulic fluid for jack hammers. Vince was also involved in the training of sales and technical staff before leaving Mobil in 1985.

Vince was a member of several bodies, including the Engineers Association of South Africa, the Institution of Mechanical Engineering and the Institute of Certificated Mechanical and Electrical Engineers.

With the extra workload in setting up the SAIT training programme, there was a need for a person to coordinate and manage the course, and Vince was appointed as SAIT Training Manager on a part time basis in 1989. During his tenure, the "Lubrication Engineering" course was improved and expanded to become the important part of the SAIT training which it is today.

Vince resigned from this post in 1999, retired (for the second or third time!). His and Dawn's son is a doctor in New Zealand, Carolynne a doctor in Canada and Heather a teacher in Hout Bay, so after a couple of years in Johannesburg, they joined their daughter in Hout Bay, and then later moved to Canada where Vince passed away.

On behalf of the SAIT and everyone who knew Vince, we convey our sincere condolences to his wife Dawn, his daughters Carolynne and Heather in Canada, and his son Andrew in New Zealand.

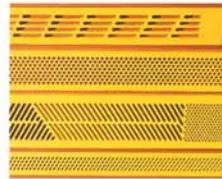


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