

# FOUNDING FATHER OF TRIBOLOGY PETER JOST WINS TOP ACADEMY AWARD

Sixty years after he launched a whole new field of engineering, Dr Peter Jost has been honoured with one of the Royal Academy of Engineering's top accolades – the Sustained Achievement Award – for his vision and achievements in tribology, the science and engineering of interacting moving surfaces. What might appear to be mundane issues of friction and lubrication now have applications way beyond engineering, from medicine and dentistry to nanotechnology.

Tribology is central to managing the effects of friction and wear, confirmed by surveys done in Germany, the USA, Canada, China, the UK and Japan. Each concluded that investing in tribology could save up to 1.4% of GDP.

As a student apprentice, Dr Jost won the Sir John Larking Medal for his *Measurement of Surface Finish* Paper. In 2009, still very active following a successful industrial career, he co-launched the concept of Green Tribology, paving the way for the first Green Tribology World Congress with 2,000 attendees.

General Manager of international lubricants company Trier Bros at 29, he developed an innovative steam machinery lubrication method. This oil-free aqueous colloidal graphite lubrication system saved energy and water by preventing the boiler tubes scaling up, which had often caused them to burst. British Petroleum adopted the system at its five new refineries, as did Shell Tankers. The lubrication system became essential until reciprocating steam plant became obsolete.

One of Dr Jost's companies, Centralube, designed sophisticated, mission-critical engineering lubrication and allied systems for steel mills, refineries, space vehicles and forges, and for ships such as the *Class T45* Destroyers and the new aircraft carriers. Another, K S Paul, created and developed high technology coatings and lubricants including Poly-Butyl-Cuprysil (PBC), a versatile metallic-organic material winning the company a 1988 Queen's Award for Technological Achievement.

Centralube's ferrous industry interests led to Jost becoming the world's first steelworks lubrication engineering consultant. He resolved many design problems at Richard Thomas & Baldwin's new Llanwern integrated steelworks and his lubricant specification changes and integrated lubrication distribution systems resulted in substantial cost savings. International take-up included German and American steel works.

His advice to the UK government included the very significant 1966 DES Jost Report, which demonstrated that avoidable wear was costing the UK huge sums of money every year. It resulted in the setting up of several centres for tribology. He has authored more than 150 publications including a critical patent and a still classified paper.

Dr Ian Nussey OBE FREng, who nominated Dr Jost, says:

"Applying tribology saves energy and improves the reliability of



systems like engines, gearboxes, human joint implants, manufacturing processes and ship propulsion. Having initiated the concept, Peter comprehensively practised and promoted it. Sixty years on, his world-wide influence is unabated."

Dr Jost says:

"I am proud to be the ninth recipient of this honour, looking upon it as a demonstration that the Academy is a forward looking body"

## Letter to the Editor

Sir,

*The British Green Line*

*At least one organisation thought of something other than fireworks to mark the Millennium (SiP Autumn 2013 p11).*

*The Ordnance Survey thought of marking the meridian on the appropriate maps by a green line. The meridian line extends northwards from Greenwich through Royston and Boston to Grimsby and Withensea on the Humber estuary, and southwards from Greenwich to Peacehaven on the coast. A total distance of just over 200 miles.*

*As we inch our way towards metrication it is worth remembering that the French were just as slow as we are to adopt it.*

*In 1903 the President of the Institution of Electrical Engineers, Mr R K Gray, in his Address reminded his audience that 100 years after the convention which introduced the metric system in France and sixty years after it was nationally enforced in 1840 "the metric system with difficulty obtained currency even in the country of its official adoption".*

*and he identified the continuing use of some more practical measures:*

*"In France, precious stones are today bought and sold in carats; firewood in cordes; milk in pintes; gravel in toises; grain, potatoes and charcoal in boisseaux; wine in barriques, feuillettes, demi-setiers and chopines; wood for construction in pieds, pouces and lignes; beer in canettes and pots; sugar and coffee, among the poor people, in livres, demi-livres, etc. Cattle dealing is in pistoles and ecus, and not in francs. Finally, the French Government has just issued a twenty-five centimes piece, doubtless because it represents a quarter of a franc."*

*Robert Freer*