

Tribology Division

Chair's Message



Rob Jackson
Chair, Tribology Division
Associate Professor, Auburn University

Dear Tribology Division ASME Members,

After a long period of absence, here is the latest newsletter for the division. I would like to encourage all of you to get involved in the ASME Tribology Division. There are many ways you can do this. There are many technical committees that you can become involved with in a variety of ways, such as helping to solicit papers for the International Joint Tribology Conference (IJTC). The best way to get involved with these committees is to attend conferences and the technical committee meetings and volunteer to be an officer. You can also email the Paper Solicitation Chair (PSC) for some of the sessions you are interested in and volunteer.

Here is a list of Track Chairs that you could email:

<http://www.asmeconferences.org/IJTC2012/Organizers.cfm>

You can also find lists of the current ASME Tribology Division officers on the division website:

<http://divisions.asme.org/Tribology/index.cfm>

I would also like to draw your attention to several conferences on the horizon. First there is the ASME/STLE IJTC on October in Denver, Colorado. Although it is too late to submit technical content, you can still participate and benefit from the many technical presentations and networking opportunities. Here is a link to the conference website and technical program:

<http://www.asmeconferences.org/IJTC2012/>

We are also in the process of renewing our cooperative agreement with STLE for the IJTC so that the IJTC should remain one of the premier tribology conferences for years to come. We are considering holding an abbreviated version of the IJTC in 2013 due to the World Tribology Congress also being held in 2013.



Michael R. Lovell
Chair, ASME/STLE IJTC 2012
Chancellor and Professor,
University of Wisconsin-Milwaukee

However, that may or may not happen. Please stay tuned and let us know if you would like to help with this.

Please also let other ASME members, engineers and scientists who work in the Tribology area about the Division and to select us as their primary division when completing their ASME membership renewal.

Best Regards,
Rob Jackson

 **ASME/STLE 2012 International
Joint Tribology Conference**

OCTOBER 7-10, 2012 • WESTIN DENVER DOWNTOWN, DENVER, COLORADO



Tribology Website to be Started by Education Committee



Min Zou
Associate Professor, University of Arkansas

I joined ASME while I was a graduate student and STLE soon after I graduated, but my experience with both organizations was very limited at that time. It was not until I embarked on a new career in academia and started regularly attending the IJTC and STLE annual meetings that I became involved in the volunteer committee services in both societies. Since then, I have served on various committees in both ASME and STLE, organized and chaired numerous sessions at IJTC and STLE conferences.

Through these activities, I realized the importance of providing technical training and educational resources to new comers on the emerging topics of tribology.

Tribology is such an interdisciplinary subject that encompasses many different fields. This is reflected in the annual IJTC and STLE meetings, which have many tracks and sessions of vastly different focus. ASME Tribology Division Education Committee has helped students to understand the fundamentals of tribology and keep them abreast with new developments in tribology by hosting educational workshops on various emerging topics.

To effectively disseminate knowledge in tribology and actively involve people in the field of tribology, the Education Committee has developed a plan to build a website that could serve as central resources for developing and archiving education materials and programs that are of interest to the members of the ASME Tribology Division.

This website will serve as the host for the following educational contents and activities:

1. Lecture notes from IJTC and STLE Graduate Student Workshops.
2. Best Student Posters from IJTC conferences.
3. Annual presentation competitions from university professors on different tribology topics.
4. Annual online student poster competition on their research topics.
5. Annual proposals to develop tribology demonstrations, including apparatus and videos.
6. Annual tribology case studies from industry. This is to help students understand the relevance of tribology to solve real life problems and relate their research to real applications.

We believe that the website will further inspire and connect people in the field of tribology.

By
Min Zou

The Sad Loss of a Great Tribologist

It is with regret that we inform readers of the death of Michael Neale, who has been a leading figure in tribology for over half a century.

Michael Neale was born in 1926. He became an engineering apprenticeship with Rolls-Royce Ltd., Derby and then went on to do research on piston ring lubrication at Imperial College. He joined the Glacier Metal Co. Ltd. as engineering research manager at the time that the company was building its international reputation as leaders in plain bearing technology. This experience provided a firm foundation for his move into independent consultancy.



Michael Neale (1922-2012)
Consultant
Neale Consulting Engineers Ltd, UK

He founded Michael Neale and Associates in 1962, which later became Neale Consulting Engineers Ltd.

The consultancy practice developed a world reputation for tribology and practical problem solving. He was awarded the tribology silver medal in 1978 for contributions linking research to improved machine design. He was awarded the OBE in 1984 for services to the engineering profession. He was elected President of the Institution of Mechanical Engineers in 1990.

Michael wrote a number of technical tribology publications during his career. He was perhaps best known for the internationally best-selling *Tribology Handbook* – a work he had first edited in 1973.

Tribology in the UK



Rob Dwyer-Joyce
Professor and Head of Mechanical Engineering
Department,
University of Sheffield, UK

Universities in the UK have seen some major changes this year. The fee structure for home students has been radically changed with the fee for home undergraduates tripling to up to £9000pa.

Students take a loan to which they make phased repayments when they achieve employment. The burden of funding higher education has shifted from the state to the individual. Despite, this major turmoil in the sector, mechanical engineering departments, for the most part are doing rather well. Applications are up nationally and there seems to be a resurgence of interest in engineering courses. Perhaps students are put off by careers in the financial sector, and see engineering as a safer bet in times of economic difficulty. Job prospects for graduates are also strong – with most quality courses sustaining graduate employment rates of 90% and above. All in all, for mechanical engineering in the high quality research-led universities is thriving.

Tribology in the UK also continues to thrive, the big groups at Cambridge, Imperial, Leeds, Sheffield and Southampton are all very active. The EPSRC (our equivalent of the NSF) have funded some big collaborative projects including; the Encyclopaedic project at Sheffield and Loughborough to study frictional losses in automotive engine; a major programme on Green Tribology at nCATS in Southampton, at Cardiff on mixed lubrication of rough surfaces, at Imperial work on nano-tribology, and nano-lubrication; and a major new activity at Leeds to expand the use of PVD coatings. The nation's tribology PhD students have self-assembled into a grouping called Tribology UK, that arranges bi-annual events where they can meet, share ideas, and go for a few drinks (without their supervisors).

By
Rob S Dwyer-Joyce,

Auburn University to add first minor in tribology, lubrication science



Auburn University's Samuel Ginn College of Engineering will add a 15-hour tribology and lubrication science multidisciplinary undergraduate minor to its curriculum this fall – the first of its kind in the United States. The minor will prepare students from various engineering and science programs for careers that require knowledge of friction, wear and lubrication.

Students will gain an understanding of common mechanical systems and applications that rely heavily on satisfactory tribological performance.

Faculty will teach five multidisciplinary courses varying from mechanical, polymer and fiber, chemical and materials engineering, as well as organic chemistry and an introduction to business and engineering. The program offers students the opportunity to gain hands-on experience with industry standard devices and equipment through laboratory sections and research. Tours of local manufacturing facilities and guest lectures from field experts will provide students with an inside look at the industry.

"Lubrication technology is accelerating as rapidly as any of the other technical fields, and our industry needs a constant flow of capable talent to replenish and bolster our ranks," said Dave Millin, Vice President of Additives Business and Technology at The ELCO Corporation. "We need people educated in the fundamentals to develop technology as the industry evolves because most of us have learned our trade from on-the-job exposure and experience," he added. "Up to this point, we have not had a formal curriculum dedicated to tribology – I look forward to seeing students coming out of the program at Auburn with the talent to make a contribution to the lubricant industry."

For additional information on the minor, visit www.eng.auburn.edu/tribology

Milwaukee (WI) Tribology Consortium



Pradeep L. Menezes
Researcher
University of Wisconsin-Milwaukee

In southeastern Wisconsin, the tribology community is alive and thriving. The University of Wisconsin-Milwaukee (UWM), one of the world's largest academic centers for tribologists holds a monthly tribology consortium on the first Monday of each month where faculty, staff, students, and researchers from other institutions and business organizations can present their research and discuss the state of tribology and the recent advances. UWM maintains a strong presence in the tribology community with over twelve committed faculty focusing portions of their research on tackling tribological issues in a multitude of areas including bio-tribology, nano-tribology, and green-tribology.

In addition, other academic institutions (such as Milwaukee School of Engineering), business organizations (such as Benz Oil, Rexnord, General Electric, Rockwell Automation, Friction Stir Links), and interested individuals regularly join in these monthly gatherings bringing their expertise and unique perspective to help cultivate an enriching environment that focuses on working together to solve the increasingly complex tribological problems of today's applications. Faculty from US research institutions/organizations (such as Carnegie Mellon University, Texas A & M University, Southern Illinois University at Carbondale, Missouri University of Science and Technology, Milwaukee School of Engineering, Argonne National Lab, Institute of Tribology and Coatings (ITC)) and International Universities (such as Indian Institute of Science, India; Bournemouth University, UK; Ariel University Center of Samaria, Israel; and Indian Institute of Technology from Delhi, Bombay, Ropar, and Indore) have attended and delivered presentations at the consortium.

As we all know, many of the solutions today require a multi-disciplinary approach, therefore the focus of the consortium is to establish new collaborations and businesses between faculty, researchers, and students from various institutions/organizations to foster new relationships and share their knowledge. This also allows students to work on industrial problems, real-world experience, and gain job opportunities. Currently, UWM is investing in these relationships with the development of a state-of-the-art Innovation Campus which will greatly increase the research capacity of UWM, allowing the best in their fields to work in a centralized location to solve the difficult problems. So, the next time you are in the Midwest and looking for a tribology community, look no further than Milwaukee, a big city with a small town feel, situated on the beautiful shores of Lake Michigan.

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Upcoming Tribology Conferences

 <p>WTC 2013 5th world TRIBOLOGY congress TORINO Italy SEPTEMBER 8-13, 2013</p> <p>Abstract Submission Deadline - October 31, 2012</p>	 <p>STLE 2013 DETROIT Detroit Marriott at the Renaissance Center</p> <p>Abstract Submission Deadline - October 1, 2012</p>
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