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#### Meeting Fees

STLE Members - \$45  
Non-Members - \$55  
Students - \$20  
Retirees, transition members - \$25

(Includes meal, refreshments & talk.  
Subject to change without notice and add \$5 if not pre-registered)

## STLE Toronto Section

November 2010 Newsletter



**Monday November 1, 2010**

**Joint Dinner Meeting with the ASHRAE Toronto Chapter**

The Old Mill  
21 The Old Mill, Toronto, Ontario  
(Click [HERE](#) for directions)

5:30 - 6:00 pm Hospitality  
6:00 - 7:15 pm Dinner  
7:15 Technical Presentation

**Topic: Lubricants for Low Global Warming Potential Refrigerants: Lubricants Optimized for Transcritical Carbon Dioxide (R-744) Applications**

**Presenter: Edward Hessel, Hatco Division, Chemtura Corporation, Fords, New Jersey, USA**

#### Abstract:

Carbon dioxide (R-744, CO<sub>2</sub>) is a natural, environmentally benign refrigerant with an ozone depleting potential (ODP) of zero and a global warming potential (GWP) of 1. Although CO<sub>2</sub> has been used for more than a century in traditional subcritical evaporation/condensation commercial refrigeration, the practical implementation of the transcritical cycle has resulted in a resurgence of research into the use of CO<sub>2</sub> for many refrigeration and heat pump applications. The lubrication requirements are different from hydrofluorocarbon (HFC) refrigerants due to both the higher system operating pressures of CO<sub>2</sub> and molecular structure differences of CO<sub>2</sub> vs. HFCs. In particular, the high solubility of CO<sub>2</sub> in the traditional lubricants used with HFCs results in significant viscosity reduction in the compressor which can result in insufficient lubrication of bearings and improper sealing of clearances. A challenge exists to design a lubricant with limited CO<sub>2</sub> solubility characteristics while still ensuring good oil return and high heat transfer efficiency.

#### Biography:

Ed Hessel has been involved in industrial chemical research and development for over 25 years, mostly in the area of lubricant additive and synthetic lubricant development. Ed holds a B.S. degree in chemistry from the University of Connecticut and received his PhD in organic chemistry from the University of Rochester, NY. He has worked for Ciba-Geigy Corporation, Texaco, and King Industries Specialty Chemical. Ed joined Chemtura Corporation in 2008 as the Technical Manager for Refrigeration Lubricants where his group is developing advanced ester technologies for existing and next generation refrigeration applications.

Section Sponsors



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**Improving Lubrication in the HVAC Industry**

**Presented by: Chris Barnes, P.Eng, MBA, Honeywell Building Solutions**

**Abstract:**

Lubrication in the HVAC industry and is sorely neglected and overlooked in importance. As is the case in many industries, lubrication is mostly an afterthought, but is now drawing attention because of its ability to both reduce costs and save energy - thereby achieving the often duelling agendas of going lean and going green.



Poor lubrication actually benefited many in the HVAC industry by increasing the number of failures and repairs and consequently increasing sales of equipment and emergency service. Building operators and property managers often play right into the hands of unscrupulous HVAC service providers by seeking ever lower maintenance and operating costs. This short term reducing of preventative maintenance (PM) comes at the much larger expense of long term capital replacement as well as energy savings. Well maintained and lubricated equipment such as a bearing will last longer and operate efficiently. Neglect it and deprive it of lubricant such as grease and friction will increase (wasting energy) and the bearing will eventually seize-up and fail, causing collateral damage to the housing and surroundings. A nice sale for someone!



This presentation will cover some basics of lubrication, present case studies and suggest ways to improve common practices in the HVAC industry. The content and underlying principles are equally applicable to other industries and are sure to generate some lively discussion in this first joint meeting between the Toronto chapters of the ASHRAE and the STLE.

**Biography:**

Studied Chemical Engineering at the University of Toronto and in the oil industry working for Petro-Canada Lubricants in R&D, Customer Service for OEM Specialty Fluids and Heat Transfer Fluids, and Field Technical Service. While studying for an MBA part-time at the Schulich School of Business, he accepted the position of National Sales Manager at Lubrication Engineers of Canada. After a decade in the lubricants industry Chris joined Honeywell Building Solutions (Canada's largest HVAC service provider) in 2005 as an Account Executive and has won over a dozen Sales Awards including Honeywell's top honour, Presidents Club.



Chris is a member of Professional Engineers Ontario (PEO), the American Society for Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE), and the Society of Tribologists and Lubrication Engineers (STLE). He was Chair of the Toronto Section of the STLE for the 2005 - 2006 year.

**Note: Dinner is Monday, November 1**



STLE members and guests register with Ed Milanczak at [emilan@cogeco.ca](mailto:emilan@cogeco.ca)

ASHRAE members and guests register at [www.TorontoASHRAE.com](http://www.TorontoASHRAE.com).

Also, please pass this along to others in your company or to colleagues.

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**STLE Annual Meeting Updates**



**Annual Meeting Abstract Submission Deadline has been extended to Oct. 22**

If you are interested in presenting your latest work during the 2011 STLE Annual Meeting you must submit an abstract of your presentation no later than **October 22, 2010** to the [abstract submission website](#). Abstracts of presentations should be between 100 - 150 words and must deal in one of the areas surrounding the studies of tribology and lubrication. The list of topics can be accessed [HERE](#).

If you have any questions, please contact [Merle Hedland](#) or call (630) 323-7212

Please note: The date has passed for a guaranteed spot; but abstracts can still be submitted for consideration.

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**Nanotribology at the 2011 Annual Meeting**

The Nanotribology technical committee invites you to submit papers for presentations in the area of nanotribology. Abstract submission deadline is just a few weeks away, **October 22, 2010**. In addition, for the first time ever, the committee will be offering a half-day course on the fundamentals and applications of nanotribology. This course will take place the Sunday afternoon before the conference. This event will be **FREE** to conference registrants.

[Information on Nanotribology session and course](#)



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**Welcome Ryerson Students**

Behshad Sabah (H.L. Blachford) has been doing a great job making students at Ryerson aware of STLE. Ryerson is also looking for ideas and mentors for 4th year projects. It would be great if each company could suggest something or help one student. Being a mentor means maybe meeting them once and then being available by phone or e-mail to help guide them along.



The following students are now receiving our newsletters; Yu Chen, Sahand Saremi, Payam Tavakoli, Navid Malakootikhah, Mian Shah, Meisam Salahi, Marcelo Lorenzo-Luaces, Ioannis Orphanides, Hossein Haddadi, Farshid Foradi, Ehsan Yazdanp, Andre Stanneveld, Adeb Mansuriand, and Mojtaba Rezaey.



**Upcoming Speakers - STLE Toronto Section Meetings**

January 13, 2011 - Nick Samman, Petro Canada, on Grease

February 10, 2011 - Karen Levins, Cantox, on Chemical Management in Canada

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## October Meeting Highlight



On the right Mr. Wayne Mackwood, Chemtura and Toronto Section Chair thanks Mr. Don Johnston, Lubrizol Canada for his excellent talk on 'Passenger Car Trends and the GF-5 / SN / dexos1 Story'. It will be a very challenging time for suppliers and users to figure this one out.

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## STLE Membership Pins

The STLE has sent the Toronto Section Membership pins to be given to our members at the February 2011 Diner Meeting. Our thanks to these members and their companies for supporting STLE and our Section.

### **50 years**

Mr. M. J. Oreilly  
Mr. Geoffrey Dyson Weir

### **40 years**

Mr. Kris Bajaj  
Mr. Ben Beekhoo

### **35 years**

### **10 years**

Mr. J. Richard Quinn  
Mr. Graham H. Stratford  
Mr. Edmund W. Milanczak  
Mr. Joseph J. Antoniazzi  
Mr. Mathieu Francois Noualy  
Mr. Jonas Brand  
Mr. Christopher M. Barnes  
Dr. Luc Girard

Mr. Muhammad Samiullah

**30 years**

Mr. Kenneth J. Brown  
Mr. Werner Dewald  
Mr. Brian J. MacLellan  
Mr. Larry J. Baker  
Mr. R. Eric Buckberrough  
Mr. Brian J. Milner

**25 years**

John Bingham Medley  
Mr. Richard Rotherham  
Dr. George Staniewski, P. Eng  
Mr. Vincent Rakchaev

**20 years**

Mr. Lorne F. Brock  
Mr. Ronald F. Buckle  
Mr. Ronald Muir  
Mr. James Harold Arner  
Mr. Tony Stranges  
Mr. Romy B. Alon  
Mr. Paul E. Sampson  
Mr. James Szeto  
Mr. Donald G. McEachern  
Dr. Nicolas Samman  
Mr. Richard P. Kwiatkowski  
Mr. Andrew J. McGivern

**15 years**

Mr. Wayne A. Mackwood  
Mr. William A. Quesnel  
Dr. Waldemar M. Dmochowski  
Mr. Mario Tammaro  
Mr. Edward M. Austin  
Dr. Vladimir I. Klotchikhine  
Mr. Kirk McNaughton  
Mr. Edward N. Sunghing  
Mr. Dick H. Van Delft

Dr. Inga Kuksis  
Mr. Paul W. Michaluk  
Mr. Tony Stranges  
Mr. William S. Bradley  
Mr. Dennedy D. Eng  
Mr. Thangavel Rathina Kumar  
Mr. Campbell Ian Sidders  
Mr. David N. Hermans

**5 years**

Mr. Tara Singh  
Mr. John N. Pettingill  
Mr. Gustavo Velasquez  
Ms. Kimberly A. Kriber  
Dr. Jun Liu  
Mr. David Andrew Dragert  
Dr. Arnold E. Legzdins  
Dr. Jean Victoria Reid  
Dr. Mark A. Nicholls  
Mr. Gavin M. Pereira  
Mr. Gregory Dalton  
Mr. Simon A. Malek  
Mr. Thomas Cipriani  
Mr. Behshad Sabah  
Mr. Randy J. Ikenouye  
Mr. Peter Grondin  
Mr. David Scott Anderson

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**2010 - 2011 STLE Toronto Section Board**

<b>Chair</b>	Mr. Wayne A Mackwood	Chemtura Canada Co/Cie	416-724-3653 <a href="mailto:Wayne.mackwood@chemtura.com">Wayne.mackwood@chemtura.com</a>
<b>Vice Chair</b>	Mr. Paul Sampson	Lubrizol of Canada	905-845-9565 <a href="mailto:Paul.sampson@lubrizol.com">Paul.sampson@lubrizol.com</a>
<b>Secretary</b>	Ms. Kimberly A Kriber	Ontario Power	416-969-6205

		Authority	<a href="mailto:Kimberly.krieber@powerauthority.on.ca">Kimberly.krieber@powerauthority.on.ca</a>
<b>Treasurer</b>	Mr. Ed Milanczak		416-702-3107 <a href="mailto:emilan@cogeco.ca">emilan@cogeco.ca</a>
<b>Membership</b>	Mr. Behshad Sabah	H.L. Blachford Ltd.	905-823-3200 ext. 471 <a href="mailto:bsabah@blachford.ca">bsabah@blachford.ca</a>

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We look forward to another great year with the Toronto Section of STLE. If you have any suggestions or would like to see anything specific in our monthly newsletters, please don't hesitate to contact Ken Brown, Eco Fluid Center Ltd, at 416-466-3144 or via email at [kenbrown@fluidcenter.com](mailto:kenbrown@fluidcenter.com).

Sincerely,

STLE - Toronto Section

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