



Edmonton Chapter News

Last Month

ASM/AWS March Dinner Meeting Recap Katherine Jonsson

The most recent ASM technical dinner meeting was held on March 1, 2012 and was organized in conjunction with AWS. The guest speaker, Joel Peppin, gave an introduction to submerged arc welding and recent developments in waveform manipulation. Over 50 people attended Joel's presentation and there was substantial discussion during the question period. The presentation outlined the fundamental concepts of submerged arc welding, including various electrode configurations, flux types and important parameters that are optimized to increase deposition rates and hence improve productivity. The final topic of waveform manipulation spurred a lot of interest in the audience since this is a relatively new technique that is currently being researched and will hopefully be standardized and implemented in industry very soon. ASM Edmonton would like to thank Joel for his excellent presentation and we look forward to organizing another joint ASM/AWS dinner meeting.



Speaker Joel Peppin discussing the merits of various welding processes

April Events

Technical Dinner Meeting

Our fifth and final technical dinner meeting of the season will take place on Thursday, April 5th. We will be welcoming Geoff Wowk from Sintra Engineering. Geoff will be speaking about *Root or Moot: The Art and Science of Forensic Engineering*

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Husky Energy



Abstract:

Forensic Engineering is an investigative process. In general, engineers are good critical thinkers but sometimes forget to question first principles. Occasionally Root Cause Analysis does not provide the root cause, but rather what appears to be the root cause. Forensic Engineering involves working backwards from failure using first principles in order to determine the cause while taking nothing for granted. Examination of evidence, observations, analysis and testing all serve to answer the question: is the variable under consideration root or moot? This process eventually leads to an ultimate determination of cause, which in turn facilitates corrective action and can help identify liable parties for subrogation. This presentation will provide an overview of forensic engineering, including a walkthrough of the failure investigation process in the various disciplines that Sintra Engineering practices.

About the speaker:

Geoff has a Bachelor of Science in Mechanical Engineering and a prior experience in Forensic Engineering with exposure to accident reconstruction, design and property loss. At Sintra Engineering, Geoff conducts fire and technical investigations for property losses.

Born and raised in Edmonton, it's not surprising that Geoff is an avid hockey fan. His best and worst days can be directly correlated with the Oilers' winning and losing streaks. His passion for the sport is evident through his volunteer coaching of junior high students.

Dates and Times:

Date: Thursday April 5th, 2012
Registration: 6:00 PM
Dinner: 6:30 PM
Technical Program 7:30 PM
Location: University of Alberta Faculty Club
RSVP by April 3rd, 2012 to asm.edmonton@gmail.com

Costs:

Students: \$10
Professional Members: \$25
Non-Members \$35

Payment can be made by cash or cheque. If you would like to pay by credit card, there will be a nominal fee of \$1.50 to cover processing cost. For more details regarding this payment option please contact us at asm.edmonton@gmail.com.

Monthly Trivia

The characterization of oxide systems is often difficult due to the formation of a blend of both metastable and stable compounds. This often due to the high activation energy barriers of solid state reactions. What is one way of reducing or eliminating this limitation?

Upcoming Events

2011-2012 Events

Thurs, April 5th - Dinner Meeting
Speaker: Geoff Wowk, Sintra Engineering
Topic: Forensic Engineering
Location: U of A Faculty Club

Sat, April 14th - Edmonton Regional Science Fair
Location: NAIT: (11752 -106 Street NW)

Friday, May 4th - Industry Tour
Location: AlleyKat Brewery

Thurs, June 7th - Annual General Meeting
Location: U of A Faculty Club

Chapter Sustaining Members

Please take a moment to visit the websites of our chapter sustaining members

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2011-2012 ASM Edmonton Executive

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Feedback

The ASM Edmonton Executive is continually working to improve this newsletter in order to better serve our members. If you have any suggestions or comments regarding the newsletter or if you would like anything included please contact us [here](#).

Trivia Answers

One way to reduce the activation energy barrier is to incorporate a liquid phase. One example is the use of a small amount of CaO in the production of refractory silica brick from quartz. The CaO provides a liquid phase which effectively eliminates the activation energy barrier through a solution-precipitation mechanism. This allows tridymite and cristobalite to readily form.

(Source: W.D. Kingery, H.K. Bown, D.R. Uhlmann, *Introduction to Ceramics 2nd Edition*. New York, NY: John Wiley & Sons, 1976, pp. 313)

(Courtesy of Greg Nelson)

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