

February Dinner Meeting Recap

December Meeting Recap - Greg Nelson

For the February 2016 technical dinner meeting ASM Edmonton welcomed Bill Derksen. Bill spoke on API inspection, risk-based inspection, and practical materials engineering situations. Bill is an ABSA in-service inspector and API 510, 570, and 936 certified inspector with Syncrude Canada. Bill's talk included an overview of what is API inspection, how to become an API inspector, and interesting applied examples. The talk was well received by over thirty members and garnered many interesting questions from the audience regarding inspection and risk-based inspection.



Bill Derksen at the ASM Edmonton Chapter February dinner meeting.

If you have any ideas for future technical speakers or topic please don't hesitate to contact us at ASM.Edmonton@gmail.com

March 2016 Event

Joint AWS / ASM Dinner Meeting

For the next AWS Joint technical dinner meeting of the season, ASM Edmonton will be welcoming Dr. André McDonald who will be speaking on *Smart Coatings for Damage Detection and Heating of Polymer-based Materials*.

Abstract

Thermal spray deposition of metals onto polymer-based structures has emerged as a novel and exciting area of research aimed at the development of smart coatings. In particular, the deposition of metals onto polymer-based structures has been developed to enhance the thermal and electrical properties of the resulting metal-polymer ensemble material system. In this presentation, Dr. McDonald outlines the intrinsic benefits and disadvantages of polymer-based materials when used as pipes or airfoils. A description of the flame spray metallization process for polymer-based materials is outlined. The presentation will allow for a description of the microstructure of the resulting coatings and the impact of those coatings on the underlying polymer substrate. New results in which the coatings are used successfully in damage detection monitoring and heating of the non-conductive polymer substrates will be presented. The presentation will end with a brief discussion of the mathematical modeling work that is currently in progress to predict the

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Upcoming Events

ASM Technical Dinner Meeting

Thursday, April 28, 2016

Location: University of Alberta Faculty Club

Speaker :TS Sudarshan

performance of the coatings as heating elements. Throughout the presentation it will be emphasized that the research could be considered as a nexus between selected elements of mechanical engineering, materials science, and heat transfer.

Biography



Dr. André McDonald is currently an Associate Professor in the Department of Mechanical Engineering at the University of Alberta. He received his BSME from the City College of New York (CCNY) in 2001, where he was the Dupont Mechanical Engineering Distinguished Graduate and won the Peggy Benline, Eliza Ford, and ALCOA awards. He was awarded his MSME from that same institution in 2002. He received his Ph.D. from

the University of Toronto in 2007, followed by a short post-doctoral fellowship at the Industrial Materials Institute - National Research Council Canada (IMI-NRC) in Boucherville, Québec. Dr. McDonald's current research includes the development of flame-sprayed coatings to provide wear and erosion resistance and to provide heating and structural health monitoring to polymer-based structures. In the area of cold-spraying, he has been working to develop a variety of metal matrix composite coatings with alumina or tungsten carbide as the reinforcing particle material. Since becoming a professor, Dr. McDonald has trained 50 students, at both the graduate and undergraduate levels, in the areas of thermal spraying and/or heat transfer. Among many other service contributions to the industry, he was the chairman of the ASM Thermal Spray Society Training Committee, the Lead Editor of the 2015 International Thermal Spray Conference Proceedings, and is currently the Lead Editor of the Journal of Thermal Spray Technology and Chairman of the Canadian Cold Spray Alliance.

Price:

\$30 for members of the affiliated societies (ASM, AWS, NACE, CWS, SME and CSME);

\$10 for students;

\$40 for non-members.

Note: Eventbrite adds a small surcharge.

Dates and Times:

Date: Thursday, March 24, 2016

Location: Faculty Club, University of Alberta, 11435 Saskatchewan Drive

Register now through [Eventbrite](#). For further questions contact asm.edmonton@gmail.com

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](#).

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