



The Manufacturing Society  
Northern Lights Chapter # 370

# The Northern Lights

February 2007

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SME Northern Lights Chapter proudly presents

A Technical Dinner Presentation on ....

## Model and High Power Rocketry: Techniques, Materials and Activities

February 14, 2007  
at the University of Alberta Faculty Club

To most casual observers, model rocketry appears to be limited to the small-size card-and-plastic kits that can be found in the local hobby store. While these models account for the majority of amateur launches, a small band of enthusiasts regularly fly rockets that are far removed from those that parents would fly with their children on a warm weekend in the local park. This presentation will discuss model rocketry from its simplest form, to complex scratch-built scale models and high performance rockets, which utilize high-tech materials, avionics, computer simulation and advanced construction techniques, to break the sound barrier and attain altitudes in the order of tens of thousands of feet.

Adrian Liggins PhD PEng is the President of the Edmonton Rocketry Club. He holds a level 3 High Power Rocketry Certification in Canada. His rocketry interests include scale models of early Soviet rocket designs and he is also currently working towards several altitude record attempts. Adrian is a Biomechanical Engineer and is currently Service Leader for the Syncrude Centre for Motion and Balance in Glenrose Rehabilitation Hospital, Edmonton.

### WHERE TO GO!

University Faculty Club  
11435 Saskatchewan Drive  
Wednesday, February 14, 2007  
Social Hour: 5:30 to 6:30 pm  
Dinner: 6:30 to 7:30 pm  
Presentation: 7:30 to 9:00 pm  
COST: \$20 members  
\$25 guests  
\$10 student members  
\$15 student guests

Member pricing is always extended to members  
of other technical societies such as ASM, AWS,  
CWA, NACE, CSME, ASME, etc.

### WHO TO CALL!

RSVP to SME voice mail at **619-0647** or e-mail  
[smenlc@yahoo.ca](mailto:smenlc@yahoo.ca) by the end of the day Monday,  
February 12, 2007.

**PLEASE DO NOT "REPLY" TO THIS  
NEWSLETTER**



The SME Northern Lights Chapter normally holds technical meetings on the second Wednesday of each month except for the month of July and August. SME hosts the Capstone Honours the second Wednesday in April.

### **REMEMBER...**

Students and student members that attend the SME dinner meeting have a chance to win a FREE dinner drawn at the end of the meeting.

## Northern Lights Chapter Executive 2007



### Chair

Geoff Steele, [gsteale@stellartontech.com](mailto:gsteale@stellartontech.com)  
Stellarton Technologies, 481-4234

### Chair-elect

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University of Alberta, 492-6927

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### Vice-Chair, Special Projects

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### Newsletter Editor

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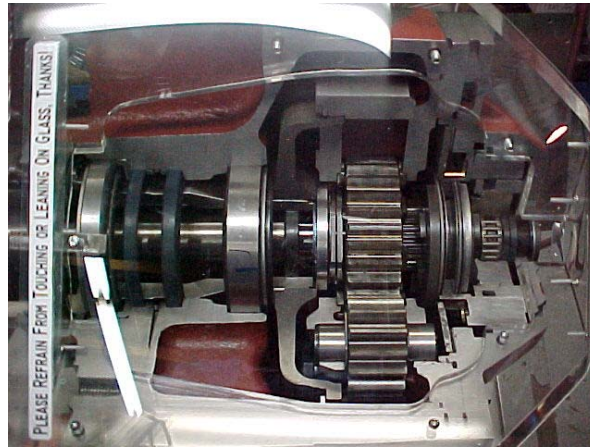
### Capstone Committee Chair

Jordan James, [jjames@stellartontech.com](mailto:jjames@stellartontech.com)  
Stellarton Technologies, 481-4234

### Mailing Address

Society of Manufacturing Engineers  
Northern Lights Chapter #370  
5328 Calgary Trail South  
Box 1333  
Edmonton, AB T6H 4J8

## Get **GEERED** up for the **CAPSTONES**. Wednesday April 11, 2007 University of Alberta ETLC Solarium



Tickets: \$35....Students: \$20

Featuring: Formulae SAE Rear Hub Design  
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Coming soon, online payment at [www.capstoneawards.com](http://www.capstoneawards.com)

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**LEAN DIRECTIONS**  
The e-Newsletter of Lean Manufacturing

Lean Manufacturing E-Newsletter available from SME at [www.sme.org](http://www.sme.org)

### Thank you...

for reading the *Northern Lights*. If you are interested in presenting at an SME dinner, please contact Dave Budney, [drbudney@shaw.ca](mailto:drbudney@shaw.ca). Kindly include the field you are working in and the subject you are interested in presenting to the chapter members and guests. Thank you.

### Remember to keep SME information current

- We do not wish any of our members or friends to miss a newsletter. Please make sure to inform the newsletter editor of any changes to your email or employment address.
- If you have any newsworthy stories or information, we would be pleased to include it in our newsletter, subject to editorial approval.
- If you know of anyone who would like to receive this newsletter, please forward his or her address to Caren Steele at [cgsteele@shaw.ca](mailto:cgsteele@shaw.ca). The best part about it - it's FREE!!
- Your SME Northern Light Newsletter can be viewed online at <http://chapters.sme.org/370/>.



**Edmonton  
Chapter**

ASM and SME  
Jointly Present a  
One Day  
Seminar



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# NDT Techniques and Flaw Detection

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Presenter: Dr. Barry Patchett *P.Eng.*

Maglyn Engineering, Chemainus, B.C.

Dr. Patchett has metallurgical and welding engineering degrees from the University of Toronto, Cranfield University in England and the University of Birmingham in England. He is the first Canadian elected a Fellow of the American Welding Society (FAWS), and also is a Fellow of the American Society for Materials (FASM) and the Welding Institute in England (FWeldI). He has many publications in refereed journals and conferences and won several international awards, including the Charles H. Jennings Memorial Award and A.F. Davis Silver Medal from the American Welding Society and the Michael N. Vuchnich Award from the Welding Institute of Canada. His professional qualifications include P.Eng. registration in British Columbia and Alberta as well as designation as an International Welding Engineer (IWE).

He has over 40 years of experience in the field of welding engineering and was Professor of Welding Engineering at the University of Alberta for 25 years prior to retirement in 2004. He also was a welding engineer at the Chalk River Nuclear Laboratory in Ontario, a Senior Research Officer at Cranfield and the Chief Metallurgist of the APV Company in England. He now has his own consulting company, Maglyn Engineering, in Chemainus, B.C.

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**February 23, 2007 (Friday)**

**University of Alberta Campus, Edmonton**

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This seminar will describe the operation and use of several commonly used NDT processes, including radiographic, ultrasonic, magnetic particle and dye penetrant techniques. The abilities of each of these processes to detect particular kinds of flaws, including cracks, porosity and other common welding flaws, will be compared and discussed (Detailed Program is listed in the next page).

## **Program Details** (Sections one hour, breaks 15 minutes)

0900 Intro - Flaws and Defects

0930 Typical Flaws in Weld-1

### ***1000 Coffee Break***

1015 Typical Flaws in Welds-2

1115 Radiography-1

### ***1200 Lunch***

1300 Radiography-2

1330 Ultrasonics

### ***1500 Coffee Break***

1515 Magnetic Particle Inspection

1600 Dye Penetrant Inspection

1630 Summary

## **Registration**

Payment is by checks only. No purchase orders please. Make checks payable to **ASM Edmonton Chapter**. There is no on site registration. No need to add GST as ASM Chapter is GST exempt. Receipts and directions will be provided by email only unless otherwise specifically requested.

### **Limited Seats – Register soon to get early bird discounts and ensure a place.**

Early registration ends January 31, 2007 and all registrations end February 17, 2006

Do not add GST as ASM Edmonton Chapter is GST exempt.

Contact Dr. Chinnia Subramanian (Tel: 577 6778 / cell: 970 4235)

email [chinnias@blackcatblades.com](mailto:chinnias@blackcatblades.com) for further details

**Visit ASM or SME Chapter web sites:**

[www.asm-edmonton.org](http://www.asm-edmonton.org) or <http://chapters.sme.org/370/>



Jointly present a one day seminar on

**NDT Techniques and Flaw Detection**

Presenter: **Dr. Barry Patchett P.Eng.**, Maglyn Engineering, Chemainus, B.C.  
**Feb 23, 2007 (Friday) at the University of Alberta**

<b>Attendee Name/s</b> (Photocopy form for additional names)	
<b>Company</b>	
<b>Address</b>	
<b>Tel</b>	
<b>Fax</b>	
<b>Email</b>	

**ASM/SME Member #**

<b>Check Amount Enclosed</b>	\$
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**Do you agree to distribute your contact details to other attendees YES/NO**

	Before January 31, 2007	After January 31 till February 16, 2007
Members of ASM and SME	\$295	\$345
Non-members	\$345	\$395
Students	\$100	\$150

**REGISTRATION FORM**

Make checks payable to **ASM Edmonton Chapter**; do not add GST.

**Mail to**  
 Dr. Chinnia Subramanian  
 Black Cat Blades Ltd.  
 5604 – 59 Street, Edmonton, Alberta T6B 3C3

**Fax to** (780) 463 6389