

The Formula



President's Message

I find it hard to believe it's already May, and we are only 1 month away from our annual 'party' at AOAC day. We all weathered a rather ridiculously cold winter (how many days of minus 30/40C wind-chill did we endure??) and I hope everyone has a good spring leading up to an even better summer.

This past year has been an interesting one for the AOAC and we have had some memorable events. The Fort Garry Brewery Tour kicked off our year and turned out to be a big hit. The first annual bowling night also turned out to be quite entertaining. In early 2008 we held our Winter Seminar with Dr. Gregg Tomy from the Department of Fisheries and Oceans presenting his research on flame retardants in households, wildlife and the environment as a whole. Our curling day was once again entertaining to all, and our only speed bump this year was the unfortunate cancellation of the Standard Aero tour. Our latest event was just last week on May 7th, as we held our GC/LC Techniques and Troubleshooting workshop at the Holiday Inn South.

Regarding the "big day", AOAC Day 2008 is just around the corner. Our Technical Sessions will occur in 3 rooms, including a room for the Manitoba MS User Group presentations. As always, the sessions are timed concurrently to allow easy transition to other sessions and access to the vendor exhibits. And don't forget about our door prizes and lunch keynote speaker! This year we have Dr. Grant Pierce from the Institute of Cardiovascular Sciences at

St. Boniface General Hospital Research Center. Dr. Pierce has published ~200 manuscripts that have attracted more than 4000 citations. His past work focused on the identification of a cardiomyopathy in diabetes and on Na/H exchange as an important mechanism responsible for ischemic heart disease. His talk during the lunch presentation is titled "*Bench To Bedside to Better Living: The Use of Dietary Flaxseed to Improve Cardiovascular Health*". The talk will focus on the cardiovascular actions of flaxseed in basic science investigations and how it will be translated into clinical trials to test its efficacy as a therapeutic option for those with cardiovascular disease.

As this will be my last message as President, I just wanted to thank everyone for contributing and helping make the Mid-Canada Section one of the most active and successful sections in AOACI. I also want to thank my colleagues on the Executive for their hard work in organizing all the events held throughout the year. I look forward to seeing all of you at AOAC day!

Sincerely,
Wes Budakowski
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Report on Mid-Canada AOAC Winter Seminar

By Wes Budakowski

On Feb 12th our winter seminar was held at Manitoba Hydro. Dr. Gregg Tomy presented to a group that endured the bad weather and driving conditions that day to present a talk focused on the effect flame retardants (in particular chlorinated and brominated versions) have on our environment. An examination of their concentration levels in humans and wildlife showed telling trends and brought attention to the detrimental effects these compounds can have in our environment. As these compounds are common in many household items (carpets, upholstery, insulation boards, etc, etc), increased awareness is definitely called for.

The Mid-Canada Section would like to thank Dr. Tomy for donating his time for this presentation and also thank David Grant and Manitoba Hydro for providing facilities to hold this seminar.

Rocks 'n' Rings

By Tom Nowicki



The '2008' Mid-Canada AOAC Curling Bonspiel was held Saturday, March 8th at the West Kildonan Curling Club in Winnipeg. Although the turnout was low this year – possibly due to the Brier that was held in Winnipeg the same week, competition for first pick at the prizes was intense. All games were two ends with each team playing four games over the course of the evening. Only a couple of games required a draw to the button by the skips to decide a winner. Following the curling, everyone retreated to the lounge for a well deserved lunch and awarding of prizes.

The winning teams were as follows:

“A” Event – Doug Bauer, Janice Bauer and James Wahl.

“B” Event – Jeff Easton, Russel Pronyk, Carl Pronyk and Andy Minkevich

Jeff Easton from the RCMP Forensic Laboratory in Winnipeg made the arrangements with the curling club for the ice time and food and brought more prizes than we had participants load. Once again, yours truly, from the Canadian Grain Commission, had the pleasure of arranging the draw.

2008 Manitoba Schools' Science Symposium

By Tom Nowicki

Once again many members of Mid-Canada AOAC volunteered their time to judge the projects entered in this year's Manitoba Schools Science Symposium (MSSS).

This year's MSSS was held April 24 – 27th at the University of Winnipeg. A dinner for the judges was held on the Friday night and was followed by previewing of the projects later on in the evening. Formal judging of the projects took place on both Friday April 25th and Saturday, April 26th. Mid-Canada AOAC awards were presented to students judged to have a superior analytical content. Wes Budakowski, Nubia Viafara, Greg Sliva and Tom Nowicki carried out judging for the Mid-Canada AOAC awards. Winning students and project titles were:

Yale Michaels	A novel smart shRNA system for disease diagnosis and therapy
Victor Le	Fuel's future-bio-fuel production capabilities of <i>Clostridium thermocellum</i> under temperature stress
Lisa Kong and Evan Nagasaka	Bio-fuel production by <i>Clostridium termitidis</i> during fermentation of cellulose

President Wes Budakowski presented plaques and cash prizes to the award-winning students at the Sunday, April 27th Special Awards Ceremony.

More information about the MSSS may be found at: <http://www.msss.mb.ca/>

AOAC DAY 2008 THURSDAY JUNE 5th

We would like to invite you to our
19th Annual Mid-Canada AOAC Day
Thursday June 5th, 2008

Victoria Inn
1808 Wellington Avenue, Winnipeg, MB
Admission

Mid-Canada AOAC Members: Free*
*With paid membership due (\$10.00)
Non-Members: \$10.00

Registration fee includes lunch
Registration begins at 8:00 am

AOAC DAY HIGHLIGHTS

❖ Laboratory Equipment/Supply Exposition

(List of vendors at date of print)
Neogen, Anachemia, Agilent, Waters, ESBE, Varian,
R-Biopharm, Canadian Life Science, Beckman
Coulter, Swagelock, Caledon, Pharmeng, PerkinElmer
Metter Toledo, Chromatographic Specialties,
Brinkmann, Betatek, Romer, Thermofisher, KPrime,
EMD Chemicals, London Scientific, Mandel Scientific,
VWR, ATS Scientific

❖ Keynote Speaker

Dr. Grant Pierce, *Institute of Cardiovascular
Sciences, St. Boniface General Hospital Research
Center.*

BENCH TO BEDSIDE TO BETTER LIVING: THE USE OF DIETARY FLAXSEED TO IMPROVE CARDIOVASCULAR HEALTH

Preventive medicine is receiving more attention as a realistic approach to curbing cardiovascular disease. Dietary interventions are known to have significant potential as preventive medicine strategies in the fight against cardiovascular disease. Flaxseed (linseed) is a nutritional intervention that has been suggested to be of benefit against cardiovascular disease. It is one of the largest plant sources of alpha linolenic acid, an omega-3 polyunsaturated fatty acid. Polyunsaturated fatty acids have known cardioprotective actions. Flaxseed is also rich in antioxidants and fibre, two more components with documented cardiovascular effects. The present talk

will focus on the cardiovascular actions of flaxseed in basic science investigations and how it will be translated into clinical trials to test its efficacy as a therapeutic option for those with cardiovascular disease in humans. *Supported by the Canadian Institutes for Health Research, Flax2015 and St Boniface Hospital and Research Foundation.*

❖ Morning and Afternoon Technical Program, topics to include:

- Standardization and validation challenges for start-up Biotech Companies
- The Global Proficiency Testing Market: Then and Now
- Advances in Capillary Electrophoresis/Mass Spectrometry (CE/MS): Implementing CE/MS for Routine Analysis of Small Molecules
- Measurement of Anthocyanins in Purple Wheat
- The MCAL Laboratory - A Partner in Analytical Research
- Top 10 Commonly Detected Drugs in Casework
- Sample Preparation for Aflatoxins and Ochratoxin A in Foods and Feeds.
- Contaminates in the news; the analysis of melamine, BisphenolA and 1,4 Butanediol
- Advancements in LCMS Technologies: Faster Analyses with More Accurate Results
- Trans-fatty acids in the Canadian diet
- Application of the QuEChERS Extraction Method for the Analysis of Pyrethrins and Pyrethroids in Fin and Non-Fin Fish
- Proper Selection of regulators for Specialty Gas systems
- Increasing sensitivity for Improved GCMS Analyses
- Biofuels
- Which reverse phase column is right for me
- Contaminates in the news; the analysis of melamine, BisphenolA and 1,4 Butanediol

❖ Posters

- Determination of folic acid content in cereal samples using immunoaffinity clean-up in conjunction with UV-HPLC.
- Rapid Enantiomeric Separation of 101 Basic Drugs and Metabolites: A Generic Strategy Using Highly Sulfated Cyclodextrins Revisited

❖ Mid-Canada AOAC AGM

All are welcome. Do you have time to commit to our organization? We are always looking for new members for the Executive. Anyone wishing to be part of our next Executive must be present at the meeting along with a member to nominate them. Come be part of a very rewarding experience.

Manitoba Mass Spec User's Group Meeting THURSDAY JUNE 5th 9:00 am, Victoria Inn

The Manitoba Mass Spec User's Group is of interest to those wishing to expand their knowledge of Mass Spec. The group held its first meeting in October of 2007 and currently has a membership of about 30.

The 2nd User's Group Meeting will be held in conjunction with Mid-Canada's AOAC Day, June 5th at the Victoria Inn. There will be four interesting and informative presentations:

- **Pat Steffes** of K' Prime Technologies will present, "Increasing Sensitivity for Improved GCMS Analyses"
- **Dave Loveland** of Waters will present on the Waters Synapt High-Definition Mass Spectrometer (HDMS)
- **Tom Krakalovich** of Health Canada will present, "Assessing and Mitigating Matrix Effects in API-LC-MS, A Review"
- Varian will also present with the title of the presentation TBA.

The group has an opening for one additional presentation, so if you have something related to Mass Spec (or its allied topics) that you would be interested in presenting or if you would like to be added to the mailing list, please contact Greg Sliva or Tom Krakalovich
Greg_Sliva@hc-sc.gc.ca
Tom_Krakalovich@hc-sc.gc.ca .

We look forward to seeing you at AOAC Day!

Mid-Canada AOAC Golf Tournament 2008

Date/Time: Friday, June 6th, 9:00 am

Where: Players Golf Course

What: 9 holes (best ball format)

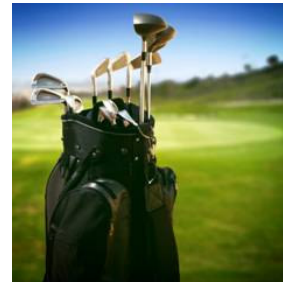
Fee: \$20/player; lunch & prizes included

Registration: **By June 3rd**

Contact: Tom Nowicki

Ph. 983-3345

E-mail: tnowicki@grainscanada.gc.ca



Website

The midcanadaoac.org website is under redevelopment. A notice of our final website update will be sent to members but until then please see www.midcanadaoac.com

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Company Profile

By David Grant, P.Eng

A SHORT HISTORY OF MANITOBA HYDRO'S LABORATORY SERVICES

Prior to 1985, Manitoba Hydro had a one-person lab at the Repair shop on Chevrier, and 2 each at the two coal-powered generating stations, at Brandon and Selkirk. In 1985-86, PCB destruction was added to the shop on Chevrier, and staff at the oil lab increased to a chemist and 2 technicians. An extra Chemist was added at each of the coal plants. By this point, the oil lab could analyze oil for PCB, Brandon could analyze trace metals by AA, and Selkirk could analyze lube oils for a number of things. A chemical engineer was hired at the end of 1985, to advise on PCB destruction and related matters. In the mid 80s, 3 different departments had jurisdiction over these lab activities. Within a few years, the oil lab and the 2 coal-plant labs were under one administrative umbrella. In 1988, HPLC was added to the Engineer's lab, and low level inhibitor, low level furan in oil were routinely analyzed. The whole furan analysis business took off, as it enabled utilities to know that their oil-filled equipment had not been damaged by overheating. There was, until that point, no way to be sure of the long-term reliability of million-dollar transformers.

Asbestos and trace metals analysis became better and more routine. While coal calorimetry had been done in the past, by the 80s, this was mostly done by a third party lab, so the results could be seen in an objective light. In the mid 90s, a lab information system was put in place. Until the early 90s, work could not be done on samples for customers outside Hydro. By the mid 90s, outside samples became a major revenue stream for the lab.

In recent years, GCMS and a couple of development chemists were added to the group. In 2007, the Province added a biofuel mandate to Hydro's labs. There are now 22 professional staff working in 3 centers, in Brandon, Selkirk, and Winnipeg. Because the staff to develop this new biofuel service are the

same ones charged with routine method development and troubleshooting, this new mandate has stressed the lab anew. The Chemical engineer has been active in ASTM work on biofuels and insulation materials. The biofuels area is changing rapidly, as new tests are devised, and new ways for things to go wrong are seen in the fuel field. It will be truly ironic if politicians come to the realization that biofuels take food from the underfed, and make only a tiny contribution to the nation's fuel supply. If this happens after the lab services industry and the test methods have fully adapted to biofuels, a lot of money and time will have been wasted. In the meantime, there is a pressing need to analyze a lot of samples, and to get a new industry solidly on its feet.

MC-AOAC GC/LC Workshop, May 7th, 2008

The GC/LC Techniques/Troubleshooting workshop was held on May 7th, 2008 at the Holiday Inn Winnipeg South. It was attended by 57 people from a wide array of local laboratories. The event covered method development and troubleshooting techniques for GC and HPLC. The Mid-Canada Section would like to thank everyone that supported this event, and especially thank Patrick Steffes from K'(Prime) Technologies for presenting the course.

UPCOMING EVENTS

June 5th, 2008

The 19th Annual Mid-Canada AOAC Day
Victoria Inn, 1808 Wellington Ave, Wpg

June 6th, 2008

**Annual Mid-Canada AOAC Golf
Tournament**

Players Golf Course, 2695 Inkster, Wpg

Prize Puzzle

Solve the Spring 2008 Newsletter Prize Puzzle for a Chance to Win \$50!

Decipher the joke below where the letters of the words are scrambled:

Q: thaw si het mean fo 070's scuino mrof
eht ornth?

A: olapr donb.

Send your answer to:

Susan Kotello

via e-mail at: skotello@mts.net

or mail: Box 6 Grp 1 RR 2

Dugald MB R0E 0K0

on or before June 20, 2008. If your answer is correct, you will be entered into a draw to win

\$50.00 cash!

Prize draw is open to Mid-Canada AOAC section members, excluding members on the Executive Committee.

The solution to the Winter 2008 Newsletter's new puzzle type, quote where the bottom half of the text was erased, is:

Science is a way of thinking much more than it is a body of knowledge.

- Carl Sagan

Congratulations to Danny Saydak who won the Winter 2008 Newsletter Prize Puzzle. Danny Saydak is a Trace Analyst in Grain Safety Section of the Grain Research Laboratory at the Canadian Grain Commission. He is currently on a 6 month secondment in the Variety I.D. Section, doing variety identification by polyacrylamide gel electrophoresis, or PAGE. Danny's name was randomly selected by Tricia McMillan and Susan Kotello from the 12 entries received.

Wanted

Zeta Potential Analyzer

Looking for a Zeta Potential Analyzer. Please contact Victor Wei if you can be of some help.

e-mail: wei@cc.umanitoba.ca or 474-9027
Environmental Engineering Laboratory
University of Manitoba

Mid-Canada AOAC Executive 2007-2008

President	Wes Budakowski; <i>K'Prime Technologies</i>
Past-President	Morley Jacobs; <i>Private Consultant</i>
President-Elect	Greg Sliva; <i>Health Canada</i>
Treasurer	Tom Nowicki; <i>CGC (GRL)</i>
Secretary	Jeff Easton; <i>RCMP Laboratory</i>
Membership	Susan Kotello; <i>Health Canada</i>
Newsletter	Tricia McMillan; <i>CGC (GRL)</i>

Members at Large

David Grant; *Manitoba Hydro*
Wayne Greenlay; *RCMP Forensic Laboratory*
Juan Carlos Herrera; *Standard Aero Ltd.*
Irene Holloway; *Anachemia Science*
David Loveland; *Waters Corporation*
Brian Sithoo; *Red River College*
Nubia Viafara; *Cangene Corporation*

Have a Great Summer!

