



FROM THE PRESIDENT

Brian Leafblad

Wow, it is hard to believe another MCF year has come and gone! It seems like it was only a couple months ago that we were enjoying another rainy spring symposium. Many thanks to the symposium committee for arranging the beautiful weather this year!

As I think back on the past year, a lot of people and situations come to mind that demonstrate the effort and dedication of the people that make all our functions possible. The 24th Annual Spring Symposium was fabulous, with many people commenting that it was the best one yet. Participation was great, especially considering the corporate spending environment, and we even had some jazz entertainment! We also had the opportunity to recognize two long-time supporters of MCF in Darren Decker, the 2003 Palmer Award winner, and John Dolan, our 2002 Palmer Award winner and this year's Keynote speaker. Thank-you both for your dedicated service to MCF.

We have many things coming up again next year, with more of your favorite courses and also some new opportunities. So, enjoy the summer and we'll see you at the Saints game.

TAKE ME OUT TO THE BALLGAME!



Who said chromatographers are boring?? We're going to the Saints game for our 2nd annual MCF summer picnic! Join us in cheering on the first place Saints as they play against the Winnipeg Goldeyes on Monday August 11 We will have burgers and chicken sandwiches with all the fixings starting at 5:30 p.m., and the first pitch is at 7:05 p.m. Bring the family (it is also teddy bear appreciation day) and enjoy a night at the park. Cost is \$5 / person (covers food and game ticket).

We have 100 tickets, and it is first come / first serve. The registration deadline is Friday July 18, so don't wait!

Mail to:

Minnesota Chromatography Forum , c/o CCS Associates
6611 Countryside Drive, Eden Prairie, MN 55346
or FAX to:(952) 934-6741

Name, Title: _____

Institution or company _____

Street Address _____

2003 ELECTION RESULTS

Brenda Tjelta

Please join me in congratulating and welcoming the new board members! **Liesa Shanahan is our new President-Elect.** Liesa is currently employed by Pace Analytical Services, Inc., in Bio-Analytical Services. She has worked in the analytical arena for more than 20 years as a bench chemist, along with marketing, operations and quality management for the chemical, defense, environmental and pharmaceutical industries. She is well versed in the utilization of a variety of analytical techniques including FTMS, HPLC, GCMS, and GC with multiple detectors. Additionally, she has been involved in developing training courses including a gas chromatography course for Hennepin Technical College. She has a B.S. degree in Biology and Chemistry from Wayne State College.

Franz Rolvaag has been elected 1st year Director and has been with Novartis Nutrition since 1997. He is currently the chemistry laboratory supervisor for the Vitamin group. He is responsible for analysis and development of liquid chromatographic methods for vitamins and other food related analytes. Franz earned his B.A. in Chemistry from St. Olaf College.

MCF still needs a Secretary-Elect. If you are interested in volunteering your time and would like more information about this position, please contact me at 651-306-4236 or email at brenda.tjelta@ecolab.com.



Ward Swanson, Past President and Chair of Palmer Award Committee(left) presenting the Palmer award to Daron Decker from Agilent Technologies (right)

EDUCATION CORNER: Spring Symposium 2003 Course Reviews

Michelle Iverson, Education Committee Chairperson

I am pleased to say that the education committee offered 4 courses at the recent spring symposium. All of the courses were a great success! Below are reviews from 2 of the 4 courses. Look in the next newsletter for the reviews on *Troubleshooting HPLC Systems* and *Chromatographic Analysis of Foods and Flavors*

Mass Spectral Interpretation – Symposium 2003

Reviewed by John Baker

This year the MCF Spring Symposium hosted the short course entitled “Mass Spectral Interpretation.” Three experienced mass spectrometrists, Dr. Stacy Hanson, Dr. Cliff Jacoby, and Dr. Phil Lyon (all from 3M) worked well together giving the students a strong background from which to interpret mass spectra.

The popular course was taught to 35 students. It began with a review of the basic components that make up a mass spectrometer in order to give them an understanding of how ions are generated, detected and reported in mass spectral format. Next, students were oriented to what a mass spectrum looks like and how to identify one of the most important elements in a mass spectrum, the molecular ion. Following some instruction on how acquisition parameters, resolution and isotopes can effect identification of the molecular ion, students were taught how branching, ring structures, double bonds and heteroatoms effect the stability of the molecular ion. The instructors covered the effect of nitrogen in a compound, basic trends of aliphatic versus aromatic compound fragmentation, and described how to identify a number of simple cleavages from the molecular ion. More complex fragmentations, secondary reactions and rearrangements were then covered and the course was rounded out with a brief overview of how understanding these concepts was not only applicable to electron impact ionization, but also for electrospray and APCI.

Concepts taught in this course were driven home by several challenging problem sets that the students were encouraged to work together on between each section, and the correct answers were then reviewed. Reviews offered by the students were positive and the MCF looks forward to offering this course in the near future. MCF also extends its gratitude to the knowledgeable and personable instructors that made this course interesting and fun!

Practical Advice for Developing Better GC Methods–

Reviewed by Gibbes Bailie

Nineteen students attended the “Practical Advice for Developing Better GC Methods” course taught by Daron Decker and Pat Coleman of Agilent Technologies. The first part of the course was a lecture covering basic GC theory including such topics as Column Theory, Sample Definition and how the sample affects the choice of conditions, Carrier Gas influences and effects, Temperature and Flow Programming techniques, and Sample Introduction Modes. After the lectures the students were given a set of lab exercises with pre-set GC conditions and sent off to put theory into practice; in other words, to *optimize!*

The students were able to change anything except the column, so their choices allowed and required some tinkering. After the students

worked to optimize their analytical conditions on the first day, they were able to see the difference that the choice of carrier gas makes when hydrogen was substituted for helium on the second day. Ultimately, through optimizing several parameters the students were able to reduce GC runs from the order of 30 minutes down to about 5 minutes while keeping the same resolution.

Throughout the course, the instructors pointed out that today’s instrumentation allows analysts to use conditions such as programming for carrier gas flow, oven temperature, or injector temperature that were not possible on older instruments, and that analysts should “embrace and exploit” these and other features to optimize their chromatography, rather than just continuing to “do things the same way they have been done for years”.

The course also included an introduction to the Agilent “Method Translation” software which allows the chromatographer to “dry lab” changes to their GC conditions and determine fairly quickly whether those proposed changes might produce a more desirable chromatogram or might require unrealistic conditions to accomplish. The parameters that can be “changed” by the software include column dimensions, carrier gas (both type and flow rate), and temperature programs. The Method Translation software can be accessed at <http://www.chem.agilent.com/cag/servsup/usersoft/main.html>. That site also includes other useful, FREE, software, so check it out!

As is the case with all of our “lab” courses, the primary comments were that the students appreciated being able to directly put theory to use and see the results. The course was well received by the students who felt that we should offer it again.

A special thanks goes to the representatives from Agilent, Analytical Instruments, Lake View, Perkin-Elmer, Shimadzu and Varian for providing equipment and personnel to this course. It is only with the generosity of our participating vendors that we are able to offer this type of “hands on” course. Please thank them when you deal with them!

The following is a list of upcoming courses (please refer to www.minnchrom.org for more details):

“**Introduction to HPLC**” October 14-16, 2003
David Johnson (3M) and Larry Felice (Medtox),
“**Advanced HPLC Method Development**” Date TBD
Derek Southern, (Rheodyne, The LC Resources Training Group)
“**Beginning GC**”, January 6-8, 2004
Dr. Gary Reineccius (U of MN) and John Freeburg
“**LC-MS for Chromatographers**”, January 27-28, 2004
Dr. Rohan Thakur and Dr. Leo Bonilla (Thermo Finnigan)

The following short courses are scheduled for the 2004 Spring Symposium:

HPLC Troubleshooting
Gas Chromatography
Solid Phase Extraction
Size Exclusion Chromatography/Gel Permeation Chromatography

Please keep in mind that the Education Committee welcomes MCF Member Comments on course suggestions, instructor suggestions, and we always welcome new committee members! I can be reached at 952/431-6000 or michelle@chromtech.com.