

THE OCTAGON



Volume 87, No. 4, April 2004

Lehigh Valley Section of the American Chemical Society

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771st LVACS Meeting: Student Poster Session

Date: Thursday, April 22, 2004

Location: Moravian College – North Campus

Reception and Undergraduate Student Research Poster

Session: 5:00 – 6:15 pm, Lobby Collier Hall of Science

Dinner: 6:15 pm – Saal, Bahnson Center, Moravian Theological Seminary

Meeting: 7:30 pm Dana Lecture Hall, Collier Hall of Science

Talk: At the conclusion of the meeting - 7:30 pm Dana Lecture Hall, Collier Hall of Science

Menu: Buffet featuring Chicken Oscar and Pasta Primavera

Cost: \$20, retirees & students \$10

Contact: Reservations: LouAnn Vlahovic by Noon, Monday, April 19th. Please include your name, affiliation, and for students whether an awardee or poster presenter or both. Registration can be made by phone (610-861-1300) or by email melnv01@moravian.edu the last two digits are numbers). (Note: email registration will be confirmed by return email.)

Directions: Directions to Moravian can be found on the web at <http://www.moravian.edu/admission/directions.htm>. Suggested parking is in Lots M, N, & O, along Locust Street. A campus map is available at <http://www.moravian.edu/campusMaps/north.htm>.

Speaker: Michael Cann, University of Scranton

Michael Cann was born and raised in the Saratoga region of upstate NY and attended Marist College where he earned his BA in chemistry in 1969. Mike received his MA and PhD in organic chemistry from SUNY Stony Brook in 1972 and 1973, he was a post-doctoral fellow at the University of Utah (1973-74), and a lecturer at the University of Colorado-Denver (1974-75). Since 1975 he has been a

faculty member at the University of Scranton. He is also the co-director of the environmental science program. His areas of interest encompass nitrenium ions, nitrogen heterocycles and green chemistry. His interests in green chemistry consist of microwave assisted organic reactions, and green chemistry education. He has taught a number of courses including general chemistry, organic chemistry, environmental chemistry, chemical literature and writing, chemistry seminar, topics in environmental science, internship in environmental science and graduate courses in mechanistic and structural organic chemistry. (web page: <http://academic.scranton.edu/faculty/CANNM1/>)

Talk: Pollution Prevention: A Paradigm Addressed Through Green Chemistry

Abstract: This presentation begins with a conversation on the flawed practice of controlling the risk due to toxic substances by controlling our exposure to these chemicals. Attention is then turned to controlling the same risk by preventing the use and production of hazardous substances, which is at the heart of green chemistry. The Twelve Principles of Green Chemistry are introduced and specific examples of green chemistry and their environmental benefits are discussed.

References:

Cann, M. C. and Connelly, M. E., ³ Real-World Cases in Green Chemistry
<<http://www.acs.org/portal/Chemistry?PID=acsdisplay.html&DOC=education\greenchem\cases.html>> ,²
American Chemical Society, Washington, D.C., 2000.

<http://academic.scranton.edu/faculty/CANNM1/dreyfusmodules.html>

LVACS Officers - 2004:

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Final Meeting for Spring 2004

Friday, May 14- DeSales University -
High School Teacher's Night

Imagining something may be the first step in making it happen, but it takes the real time and real efforts of real people to learn things, make things, turn thoughts into deeds or visions into inventions"

~ Fred Rogers ~

(No matter how old you are, you can always learn something from Mr. Rogers!)

March Meeting Minutes

The 770th meeting of the LVACS was called to order by Chair Steve Weiner at approximately 7:15 PM on Thursday, March 18, 2004. Cedar Crest College and Air Products & Chemical, Inc. hosted Spouses' Night at Blue Mountain Vineyard.

Steve announced the LVACS Undergraduate Research Poster Session that will be held at Moravian College on April 22, 2004 during which a \$250 travel award will be given. He also announced the LVACS Organic Chemistry Competition for rising juniors that will be held at Muhlenberg College on April 24, 2004 during which a \$1,000 scholarship and \$100 best essay will be awarded.

Joe Greff, owner and operator of Blue Mountain Vineyards, conducted an excellent wine tasting event for members and their spouses. A tour of the facility followed dinner. Please review the following website for detailed information.

<http://www.bluemountainwine.com/>

After the tour, guests had time to shop prior to leaving. The event ended at approximately 9 PM.

Respectfully Submitted,

Tara S. Baney

Chair-Elect, LVACS

March 26, 2004

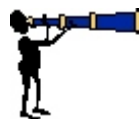
Editors Note: Answer to March Question of the Month

Who was the first woman chair of the Lehigh Valley Section? When did she take office?

Esther Engle was the first woman chair of the Lehigh Valley Section in 1940. She was on the Cedar Crest faculty from 1928 -1942.

Question of the Month:

Who designed the Bunsen Burner?
Come to the April Meeting for the Answer



Look For LVACS on the web at www.esu.edu/lvacs

Job Announcement

ANALYTICAL INVESTIGATOR - Organic Characterization

Minerals Technologies Inc., an international resource and technology based organization, currently has an opening for a Analytical Investigator at our Easton, PA facility

Under minimal supervision, the Analytical Investigator is responsible for developing and completing analytical investigations of samples, maintaining technical mastery and awareness of the state-of-the-art for areas of responsibility, assisting the Analytical Services Group's accreditation to ISO 17025, and completing administrative duties. The Analytical Investigator completes work of a varied nature and is responsible for making and implementing most of the decisions relevant to their area of responsibility.

The primary duty is customer-oriented organic characterization and problem solving using separation techniques followed by quantitative GC/MS equipped with various sampling devices and FT-IR. HPLC may also be utilized.

Requirements include an advanced degree or, Bachelor's degree with at least 6 years experience, in the sciences preferably chemistry with a minimum of 2 years working experience in a service environment with proven organic characterization experience. Candidate must possess excellent oral and written communication skills, computer skills, ability to interact with a variety of people, and ability to operate analytical instrumentation and to manipulate equipment and materials weighing 30-50 pounds. Previous experience with LIMS, XRF, ICP or NMR spectroscopy is highly desirable.

MTI offers a competitive compensation and benefits package. Please submit resume and cover letter with salary history to:

Bernadette Palumbo

Human Resources Development Manager

Minerals Technologies Inc.

640 N. 13th Street

Easton, PA 18042

Fax: 610-250-3210

Email: bpalumbo@mineralstech.com

No phone calls, please. Only those candidates meeting our requirements will be contacted. Equal Opportunity Employer M/F/D/V.

Call for Abstracts

Hello ACS members:

We are organizing a symposium at the ACS National meeting in Phila., Aug. 22-26. The topic is "Making the Transition from Industry to Academics". If you made that transition, please consider sharing your experiences and advise in an oral presentation and mention it to any colleagues who have done same.

Abstract submittal before April 20 can be made through Online Abstract Submittal System (OASYS) at:

<http://oasys.acs.org/acs/228nm/ched/papers/index.cgi>

Any questions? I can be reached this semester at:

rulsh@hawaii.edu.

Thank you,

Richard Ulsh, Univ. of Pittsburgh at Johnstown

National Chemistry Week -

Getting the Ball Rolling

National Chemistry Week (NCW) will be here sooner than you think, and planning is already underway for local and national activities. The theme for NCW 2004 is "Health and Wellness" and the unifying event is hosting a "health fair." Bayer Pharmaceuticals is aiding in this effort by donating Clinistix and Multistix (urine test strips) for use by local sections. The ACS Office of Community Activities (OCA) staff is writing activities which use these strips to demonstrate how diseases like diabetes are detected. Because we are chemists and not certified medical professionals, we cannot do screening with these test strips, so we will need to invite a local medical doctor to be part of our health fair. The doctor can offer screening for diabetes, and our local ACS volunteers can explain the chemistry of how the screening tests work. OCA is currently researching groups that can help us to host a health fair. With the current emphasis that health and wellness is getting in the media, this will be an ideal opportunity for us to contribute to our community with pertinent activities and relevant information. Anyone with ideas related to the NCW celebration is invited to email ncw@acs.org. Information is currently on the NCW website (chemistry.org/ncw) and new information will be posted as it becomes available.

This Month in Chemical History

Harold Goldwhite, California State University, Los Angeles, hgoldwh@calstatela.edu

Prepared for SCALACS, the Journal of the Southern California, Orange County, and San Gorgonio Sections of the American Chemical Society

April is the cruelest month- for April Fool's Day pranks. And since I'm preparing this article for an April issue of SCALACS (even though it may appear later in other venues) I've decided to discuss some hoaxes in chemistry and chemistry's predecessor, alchemy. Although most alchemists seem to have been sincere adepts in the pursuit of truth, and their numbers include such scientific greats as Robert Boyle and Isaac Newton, there is no doubt that one of the premises of alchemy, namely the claim to transmute base metals like lead into gold, attracted a goodly share of charlatans and frauds to the subject. There are two famous and vivid portraits of alchemists in English literature, and both of them portray alchemical swindlers.

The earlier of these portraits is found in Chaucer's *Canterbury Tales*, written around 1390. Incidentally the most famous Chaucer manuscript, the *Ellesmere Chaucer*, is on display in the Huntington Library in San Marino, within our Southern California Section. The Canon's *Yeoman's Tale* is one of pseudo-alchemical deceit. In the opening the Yeoman speaks of his master, the Canon:

"If you try science you'll be brought to book.

My eyes are bleared with work on preparations,
That's all the good you get from transmutations."

(All quotations are from Nevill Coghill's admirable translation into modern rhyming English, first published in Penguin Classics in 1952.)

Part I of the tale discusses in chemical detail the fruitless efforts of the Canon, in which most of the drudge work was done by his Yeoman, to carry out the fabled preparation of the *Philosopher's Stone*, that elixir which, when projected upon a baser metal, will transmute it into gold; Part II describes a second Canon who is known to the Yeoman to be a crook. This Canon, a true con-man, borrows a substantial sum from a priest and repays it promptly. He then promises to perform a miracle for the priest;

"Sir, he addressed the priest, send out your man
For quicksilver, as quickly as you can;
Let him bring back several ounces two or three,
And when he's back I promise you shall see

A miracle you never saw before."

The Canon now performs a transmutation of an ounce of the newly purchased mercury by the aid of "...a powder here that cost the earth" into genuine silver. The method is simplicity itself; in the crucible where the transmutation occurs the Canon places:

".... A bit of beechwood, charred to coal
In which there had been subtly bored a hole
That held an ounce of silver filings, stopped
With wax securely, lest a filing dropped."

You can probably predict the rest of this educational Tale. Having carried out not one but two successful transmutations of mercury into silver and one of copper into silver he offers to sell the powerful powder to the priest for a mere forty pounds in gold. The poor dupe obliges, the Canon leaves town rapidly, and the powder left with the priest inevitably turns out to be worthless. *Caveat emptor*.

The same Latin tag might also apply to Sir Epicure Mammon, the victim of the alchemist *Subtle* in Ben Jonson's Jacobean comedy "*The Alchemist*", written in 1610. The plot is similar to Chaucer's. Sir Epicure, a rich man lured by *Subtle*'s promises of even greater wealth gained through alchemy, is conned into supporting *Subtle*'s household and experimental expenses, but gets nothing but bills and frustrations. Typical of Jonson's plays, and those of his contemporaries, is the use of names that describe the characters including *Abel Drugger*, a would-be pharmacist, *Dol Common*, *Subtle*'s female sidekick, and *Tribulation Wholesome*, a pastor.

Perhaps the best known purely chemical hoax is the letter written by *Woehler* to *Liebig* in 1840 as a private joke. But *Liebig* published it in his journal *Annalen* under the by-line *S.C.H. Windler*. In this letter *Woehler* carries the newly observed phenomena of substitution of chlorine for hydrogen in organic compounds to an absurd height. This was a controversial topic at the time because supporters of *Berzelius*' dualism could not accept that the replacement of electropositive hydrogen by electronegative chlorine could lead to a compound of not greatly altered properties. *Windler* offers a scenario in which every atom in manganous acetate is replaced by chlorine leading to a completely chlorinated material with the properties of manganous acetate. *Liebig* added the footnote: "I have just learned that in the shops of London there are already fabrics of spun chlorine, very much in demand in the hospitals and preferred over all others for night caps, drawers etc."



A Nobel Biography

Hans Fischer

Hans Fischer was born in July 27, 1881 at Hoechst, on the river Main, in Germany. His father was Dr. Eugen Fischer, Director of the firm of Kalle & Co, Wiesbaden, and Privatdozent at the Technical High School, Stuttgart; his mother was Anna Herdegen. He went to a primary school in Stuttgart, and later to the "humanistische Gymnasium" (grammar school with emphasis on the classics) in Wiesbaden, matriculating in 1899. He read chemistry and medicine simultaneously, first at the University of Lausanne and then at Marburg. He obtained his chemistry degree under T. Zincke at Marburg in 1904; two years later, in 1906, a licence for medicine was conferred on him at Munich. In 1908 he qualified for his M.D. under F. von Müller, also at Munich. Fischer spent his first working years at the Second Medical Clinic in Munich and at the First Berlin Chemical Institute under Emil Fischer. He returned to Munich in 1911 and qualified as lecturer on internal medicine one year later. In 1913 he was appointed E.F. Weinland's successor at the Physiological Institute (O. Frank) in Munich, where he became a lecturer on physiology. In 1916 Fischer followed the invitation of the University of Innsbruck to succeed Windaus as Professor of Medical Chemistry; from there he went to the University of Vienna in 1918. From April 1, 1921 until his death he held the position of Professor of Organic Chemistry at the Technische Hochschule (Technical University) in Munich, as successor to Wieland. Fischer's scientific work was mostly concerned with the investigation of the constitutive properties of the pigments in blood, bile, and also leaves, as well as with the chemistry of pyrrole. The main reason for the latter investigation was the synthesis of these natural pyrrole pigments. Of special importance was his synthesis of bilirubin. His numerous papers were mostly published in Liebigs Annalen der Chemie and Hoppe-Seylers Zeitschrift für physiologische Chemie. In recognition of his work in these fields, the title of a "Geheimer Regierungsrat" (Privy Councillor) was conferred upon Hans Fischer in 1925; in 1929 he was awarded the Liebig Memorial Medal; Harvard University bestowed the title of honorary doctor on him in 1936; he received the Davy Medal in 1937. Fischer received the greatest honour of all, the Nobel Prize for 1930, for his work on the chemistry of pyrrole and the synthesis of haemin. In 1935, Professor Fischer married Wiltrud Haufe. He died on March 31, 1945 in Munich.

From Nobel Lectures, Chemistry 1922-1941, Elsevier Publishing Company, Amsterdam

ALMA Announcements

The next meeting of the DE/NJ/PA chapter of the Analytical Laboratory Managers Association (ALMA) is scheduled for 10:00 - 3:00 at the ExxonMobil labs in Paulsboro, NJ. Discussion topics will include 1) Skills Analysis, Planning, Cross-Training and Relocation and 2)

Measuring Customer Satisfaction. ExxonMobil will also provide a tour of their laboratories and demonstration of their LIMS. All interested analytical laboratory managers and supervisors whether a current ALMA member or not are invited to attend. Contact John Sadowski of Air Products at sadowsjs@airproducts.com or 610-481-4812.

Distinguished Service Award for Laboratory Management

The Analytical Laboratory Managers Association (ALMA) is currently soliciting nominations from the analytical laboratory community to receive the second annual Distinguished Service Award for Analytical Laboratory Management. The award, sponsored by Agilent Technologies, is intended to recognize outstanding performance and service to the profession of analytical laboratory management. The first recipient of the award was Dr. Claude Lucchesi, Professor Emeritus at Northwestern University. Last years recipient was Dr. David Green, the longtime editor of *Managing the Modern Laboratory*. Nominations are now being accepted for 2004.

Nomination Guidelines

Potential recipients of the award should have demonstrated excellence in several or all of the following categories:

Publications in *Managing the Modern Laboratory*, *AOAC*, or other journals on topics relevant to laboratory management.

- ▶ At least ten years of successful experience and accomplishments in analytical laboratory management.
- ▶ Active participation in the Analytical Laboratory Managers Association or other laboratory management organizations.
- ▶ Successful mentoring and development of new laboratory managers.
- ▶ Laboratory management achievement of national or international significance.
- ▶ Service lending distinction to the profession of analytical laboratory management.

The ALMA Distinguished Service Award will be presented at the fall ALMA Conference to be held in Wilmington, Delaware. The award shall consist of a plaque and \$3,000 plus up to \$1,000 travel expenses to attend the ALMA meeting. The awardee will attend the meeting and present an acceptance address at the award presentation ceremony.

Anyone meeting the above criteria is eligible for the Lab Manager of the Year Award. The awardee is not required to be an ALMA member. Nominations shall consist of a letter from the nominator detailing the service to the profession to be recognized. Supporting letters can be included with the nomination. Self nominations are permitted. Nominations are to be submitted no later than July 31, 2004. For additional information or to submit nominations, please contact:

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