

Chesapeake Chemist

Maryland Section
American Chemical
Society



~ Dr. Carolyn Fisher ~
McCormick & Co., Inc.

“What is Natural Food Chemistry?”

Wednesday, November 12th, 2008 – 6:30pm – College of Notre Dame, Baltimore, MD

Message from the Chair

By: Lev Ryzhkov

Please join us for the November Meeting.

November Meeting

Wednesday, November 12th, 2008 - 6:30pm - College of Notre Dame, Baltimore, MD

6:30-7:25pm	Registration / Networking & appetizers - Knott Science Center, Room 203
7:30-8:30pm	Presentation - Knott Science Center, Room 311 Dr. Carolyn Fisher ~ <i>McCormick & Co., Inc.</i> "What is Natural Food Chemistry?" ~Question and Answer (10 minutes)~

Price: Free

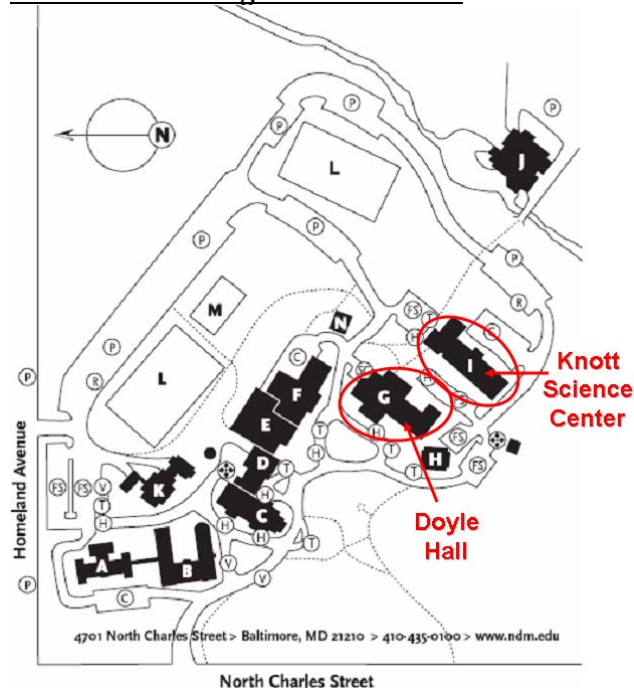
Contact: For questions, contact Shirish Shah at 410-323-0803 (H) or by email at dr.shah@juno.com

Where: College of Notre Dame, Baltimore, MD

Abstract: Carolyn was co-organizer of a symposium and roundtable entitled "What is Natural?" at the Institute of Food Technologists Annual Meeting this summer as well as a webcast on the subject in September. Carolyn is also a co-author of an article that will appear in the November issue of Food Technology with the same title that includes the results of a zoomerang survey on this topic. Her presentation will cover natural regulations (FDA & USDA), the confusion in the food industry and end with a discussion of how some food ingredients are manufactured and why it is difficult to determine whether each ingredient is natural or not.

Short Bio: Carolyn Fisher received her B.S. in 1972 from Wayne State University and Ph.D. in 1978 from Stanford University. She was a Research Chemist at Kalsec from 1978 to 1991. At the University of Delaware from 1992 to 1996, she continued her work on the isolation of bioactive components of spices & herbs as well as writing the book Food Flavours: Biology & Chemistry. She started at McCormick & Company in 1996 as a Quality Assurance Manager for industrial flavor products and became the Flavor Regulatory Manager in 2005.

Directions to College of Notre Dame:



College of Notre Dame
4701 North Charles Street
Baltimore, Maryland 21210
<http://www.ndm.edu/>

Directions can be found on the Notre Dame website:
(<http://www.ndm.edu/aboutnd/visitorscenter/mapDirection/index.cfm>)

Dinner meetings are held in the Formal Lounge in Doyle Hall (see map below). It is not necessary to be a member of the American Chemical Society to attend. You may attend the lecture without attending the dinner.

Directions & map are also available on the MD ACS website (<http://www.mdchem.org/meetings/notredame.html>).

ACS Maryland Section - Officers and Committee Chairs

Section Officers:

Chair 2008 - Lev Ryzhkov, Towson University - (410) 704-3831; lryzhkov@towson.edu

Vice-chair (chair 2009) - Walter Roy, McCormick & Company, Inc, (410) 771-7886; walter_roy@mccormick.com

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Councilors:

Merle I. Eiss meiss32@aol.com Stephanie J. Watson
stephanie.watson@nist.gov

David Roswell droswell@loyola.edu Charles Rowell
cfrowell35@verizon.net

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Committee Chairs:

Student Awards (April) - George Farrant - (410) 455-4120; gfarrant@yahoo.com

MD ACS Student Grants - Travel & Student Affiliate Awards (February/March) - Paul Smith, pjsmith@umbc.com
or Louise Hellwig, Louise.Hellwig@morgan.edu

Remsen Award (May/June) - Lev Ryzhkov

Braude Award (October) - Charles Rowell

Maryland Chemist Award (December) - Angela Sherman - (410) 532-5713; ASherman@ndm.edu

Maryland Service Award - Shree Ivengar - (410) 777-2266; ssivengar@acc.edu

Programs:

Archives - Ernie Silversmith - (443) 885-3214

Career Planning - Linh Cheong - (410) 762-1159

Earth Day - Paul Smith

Environmental Issues - Shirish Shah - (410) 704-2720
sshah@towson.edu & Sandy Young

Finance Committee - Jan Kolakowski - (410) 436-2755
jan.kolakowski@us.army.mil

Government Relations - Shirish Shah & Robert von
Tersch - robert.l.vontersch@us.army.mil

Long Range Planning - Shekar Munavalli

MARM - Shirish Shah & Alan Samuels -
alan.samuels@us.army.mil

Membership - Merle Eiss

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aamah@coppin.edu

Public Relations - Shirish Shah & Walter Roy,
Walter_Roy@mccormick.com

Retired Chemists - Alvin Bober, 410-581-5321

Student Affiliate Liaison - Louise Hellwig

Women Chemists/Younger Chemists - Sara Narayan -
443-334-2326 / Amanda (Miller) Idstein -
aredmiller@cs.com

Educational Programs:

Chemistry Olympiad/Chem-a-Thon -
Shirish Shah & Mike Zapf,
Mike_Zapf@mccormick.com

Continuing Education/High School Education -
Shirish Shah/Ellen Pisciotta

Kids & Chemistry/Chemistry-in-the-Library -
Sue Procell, 410-436-4604,
suzanne.procell@us.army.mil / Sandy Young

National Chemistry Week (NCW) -
Shirish Shah & Sandy Young

Maryland Section on the Web: <http://mdchem.org>

Webmaster - Sandy Young (mdchem@mdchem.org)

Chesapeake Chemist Editor:

(mdchem@mdchem.org)



Fall 2008 - Important Dates



- November 12, 2008 Section Meeting –Speaker: Carolyn Fisher, McCormick will give a presentation on ‘What is Natural?’, College of Notre Dame, Baltimore, MD
(<http://www.mdchem.org/meetings/notredame.html>)
- November 15, 2008 America Recycles Day (<http://nrc-recycle.org/americarecycles.aspx>)
- December 10, 2008 Section Meeting – Burkshire Marriott Hotel & Conference Center, Towson, MD – Maryland Chemist of the Year Award Dinner – Awardee: Dr. Victor E. Marquez, Chief, Laboratory of Medicinal Chemistry, Center for Cancer Research, National Cancer Institute, NIH, in Frederick, MD



Spring 2009 - Important Dates



- February 2009 Section Meeting – Date/Location to be determined
- March 22-26, 2009 237th National ACS Meeting & Exposition, Salt Lake City, UT
(<http://chemistry.org/meetings>)
- April 2009 Student Awards Meeting – Date/Location to be determined
- May 22, 2009 (Friday) New 50-year member luncheon celebration - Belmont Conference Center– directions at:
(<http://mdchem.org/meetings/belmont.html>)



Summer 2009 - Important Dates



- June 2009 Remsen Award Meeting – Date to be determined Awardee: TBD - Johns Hopkins University, Baltimore, MD – directions at: (<http://mdchem.org/meetings/JHU.html>)
- June 2009 Student Affiliate National Meeting Travel Grant application deadline for August meeting.
- July 2009 MD ACS Annual Picnic, McKeldin Area, Patapsco State Park – Directions at:
(<http://mdchem.org/meetings/patapsco-mckeldin.html>).
- August 16-20, 2009 238th National ACS Meeting & Exposition, Washington DC (<http://chemistry.org/meetings>)

Nobel Prizes in Chemistry for 2008

By: Leopold May, The Catholic University of America, Washington, DC

The Royal Swedish Academy of Sciences announced on October 8, 2008 that the Nobel Prize in Chemistry for 2008 was awarded jointly to Osamu Shimomura, Marine Biological Laboratory and Boston University Medical School; Martin Chalfie, Columbia University; and Roger Y. Tsien, University of California, San Diego, for the discovery and development of the green fluorescent protein, GFP.

The brightly glowing green fluorescent protein, GFP, was first observed in the jellyfish, *Aequorea victoria*, in 1962 by Osamu Shimomura. The jellyfish drifts in the currents off the west coast of North America. He discovered that this protein glowed bright green under ultraviolet light. Martin Chalfie demonstrated the value of GFP as a luminous genetic tag for various biological phenomena. In one of his first experiments, he coloured six individual cells in the transparent roundworm *Caenorhabditis elegans* with the aid of GFP. Roger Y. Tsien contributed to our general understanding of how GFP fluoresces. He also extended the colour palette beyond green allowing researchers to give various proteins and cells different colors. This enables scientists to follow several different biological processes simultaneously



November Historical Events In Chemistry

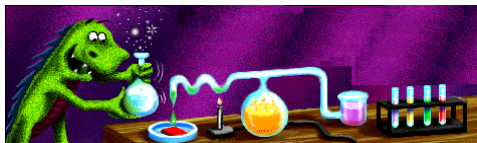
By: Leopold May

- November 4, 1862 Charles L. Reese, who improved the manufacture of dyes and explosives, was born on this date.
- November 6, 1886 Ian M. Heilbron, who was born on this date, synthesized naturally occurring compounds, such as vitamins A and D.
- November 10, 1887 Johnson & Johnson was incorporated on this date.
- November 13, 1867 Kristian Birkleland and S. Eyde performed the first industrial fixation of nitrogen. Kristian Birkleland was born on this date.
- November 14, 1863 Leo Baekeland, who invented Velox paper and the plastic, Bakelite patented in 1909, is known as the "father of the plastic industry". He was born on this date.
- November 18, 1789 Louis J. M. Daguerre, a photographic pioneer and inventor of the daguerrotype, was born on this date.
- November 20, 1892 James B. Collip, who was born on this date, refined a method of removing and purifying insulin with Frederick Banting and Charles Best.
- November 22, 1875 Dmitri I. Mendeleev stated that gallium (Ga, 31) is identical to eka-aluminum on this date.
- November 24, 1833 One hundred and seventy five years ago, Alexandre P. Borodin was born. He was a researcher on organofluorine compounds; and the Borodin-Hunsdieker reaction. He was also a chemist- composer of classical music.
- November 25, 1960 First atomic reactor for research and development began operation at Richland, Washington, on this date.
- November 26, 1801 Charles Hatchett announced his discovery of columbium (niobium) before the Royal Society on this date.
- November 28, 1962 It was announced on this date that the first pure compound of berkelium (Bk, 97) based on work at University of California, Berkeley, was prepared on this date.
- November 29, 1947 Robert A. Swanson, who was born on this date, cofounded with Herbert Boyer, Genentech, Inc. in 1976. This company pioneered the biotechnology industry and developed techniques for the possibility of genes transfer from one organism to another. It began mass- producing their first human protein by splicing a gene into bacteria in 1978, created the first drug produced by genetic engineering, human-type insulin, and was the first company to sell its own drug, human growth hormone.
- November 30, 1915 Seventy-five years ago, Henry Taube received the Nobel Prize in Chemistry for his work on the mechanisms of electron transfer reactions, especially in metal complexes. He was a researcher in electron transfer reactions and was born on this date.

For more historical facts on chemistry, visit Dr. May's website at (<http://faculty.cua.edu/may/>) or the 'This Week in Chemical History' at the ACS website':

(http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_TRANSITIONMAIN&node_id=124&use_sec=false&sec_url_var=region1)

An informal association, Society for the Propagation of the Music of the Chemist-Composers, has been formed to publicize the music of chemist-composers. For information, see <http://faculty.cua.edu/may/SPMCC.htm>.



Outreach

National Chemistry Week - 'Having A Ball with Chemistry' (<http://chemistry.org/ncw>)

National Chemistry Week is an annual event sponsored by the National ACS but carried out locally through Local Sections such as the Maryland ACS. As usual, this year we are going out to various schools & libraries around our section and doing hands on experiments with elementary, middle, and high school students.

The National ACS publication for elementary & middle school students 'Celebrating Chemistry' is available for download via the National ACS NCW website (<http://chemistry.org/ncw>).

At this point, the majority of events have concluded. In all, we had events at 15 schools and 11 libraries in Harford, Cecil, Baltimore, Howard, Carroll counties and Baltimore City.

The theme for National Chemistry Week 2008 was 'Having a Ball with Chemistry' or Chemistry & Sports. We did a series of 4 experiments examining the connection between Chemistry & Sports, including: Happy & Sad Balls - 2 balls that look the same but have different properties, Sweat & Evaporation - why do we sweat, why do we feel cooler?, Modification of Materials - students examine a cotton 'lab' napkin and modify the surface using crayon to observe the difference in absorptivity, Materials & Friction - all materials have friction but how much with different sized materials and why is friction important?



4th Grade students at Johnnycake Elementary School in Baltimore County examine similarities and differences in 'Happy & Sad Balls'. Students discover that materials that look & feel the same can have very different properties.



4th Grade students at Colgate Elementary School in Baltimore County do an experiment examining the cooling effect of sweat because of evaporation. Students discovered that evaporation has a cooling effect.



America Recycles Day



America Recycles Day is a nationwide effort to encourage Americans to recycle and to buy recycled products and is celebrated every year on November 15th.

Student Affiliate Corner

Morgan State University

By: Louise Hellwig (Louise.Hellwig@morgan.edu)

Morgan's SA-ACS chapter had a variety of speakers in October. Dr. Marco Bennett and Cdr. Postelle Birch-Smith, Public Health Service officers currently at the FDA, described the advantages of serving in the PHS. Dr. Jon Gottesman of the Biomedical Sciences Graduate Programs at the University of Minnesota spoke on "How to Choose the Best Graduate Program for You." Ms. JuliAna Brammer of the University of Maryland School of Pharmacy brought us up to speed on how to apply most successfully for Pharmacy School. Dr. Monet Sifford-Wilson of Pfizer, Inc. gave us great advice on charting the kind of career we really want; she especially emphasized networking.

For National Chemistry Week SA-ACS had a table in the lobby of the Science Complex. Chem Club members demonstrated the amount of electrolyte in apple juice and various energy drinks by making a door bell buzz.

UMBC

By: Tara Carpenter (carpent@umbc.edu)



Our group hosted a table at Halloween Fest which was an event held on campus by the SGA. Various tables offered Halloween themed activities and we made slime! Costumes were mandatory...I've attached pictures.

We had a very successful Saccharide Social on October 15 to allow members to get to know one another where we made s'mores and caramel apples.



NCW was a success! We had a bake sale, decorated with sidewalk chalk, "Build-A-Molecule" and had people guess how many nanomoles were in a 2 liter flask. It was fun.

Two students and I attended the meeting on October 22 and heard Dr. Moore speak about the digital library.

Reminder: Applications are Being Accepted for the 2009 Undergraduate Student Travel Awards

Students can apply to receive up to \$500 for travel and expenses to attend a National ACS Meeting or up to \$300 to attend a Regional ACS Meeting. Open to undergraduate student affiliates of the ACS who are enrolled full time in a college or university in the Maryland Section.

The application should include:

- The meeting you plan to attend along with location, dates
- An estimated budget (cost for travel, registration, lodging, and meals)
- A 250 word essay describing your motivation for attending the meeting (if you plan to present, include a brief description of the work to be presented)
- A letter of support from a faculty member in your department

Review of applications will begin January 15th but will continue through the year until all funds are utilized. Applications should be mailed to: Dr. Paul Smith, UMBC, Department of Chemistry and Biochemistry, 1000 Hilltop Circle, Baltimore, MD, 21250 or sent via e-mail: pjsmith@umbc.edu.

National Meeting Travel Grants Available for Student Affiliates

Active Student Affiliates chapters with students presenting posters at the Spring 2009 national meeting can apply for a \$300 travel grant. Applications are due by January 12, 2009. Information is available on the [National ACS website](#).

Poster Contest

This year, students were invited to create posters that celebrated the 2008 theme "Having A Ball With Chemistry" focused on chemistry and sports with an emphasis on chemistry/chemical principles or concepts in different sports and sporting equipment. The MD ACS received a number of submissions, some of which are shown here.



Miss Adriana Garcia, 2nd Grade, Hebbville Elementary



Miss Ayanna Maxwell, 5th Grade, Hebbville Elementary

Maryland Section Membership

On a monthly basis, members come & go – some are new, some are reinstated. Others move out of the section or cancel their membership. This month we had a gain of 37 members and a loss of 31 members. Our membership is fairly stable at 1,983 members. We welcome those who are new to our section and invite you to participate in the local section meetings and other events that provide opportunities for networking. The Maryland Section has a very diverse membership from students to retirees, from academics to industrial to government chemists & scientists. So there are great opportunities to meet new people and learn new things about chemistry.

Call for Volunteers for Committee Positions

Our Section is always looking for volunteers for our various committees. We are currently looking to fill positions for:

- Archivist
- Women's Chemist Chair
- Young Chemist Chair
- Student Affiliates Chair

Please contact **Walter Roy** (Walter_Roy@mccormick.com, 410-771-7886) or **Alvin Kennedy** (alvin.kennedy@gmail.com, 443-885-3794)

Webmaster Volunteer Needed

The Section is looking for a Webmaster for our website-www.mdchem.org. If you are knowledgeable with current webpage software and would like to volunteer please contact **Sandy Young** (Sandra.Young@us.army.mil, 410- 306-0679) or **Stephanie Watson** (stephanie.watson@nist.gov, 301-975-6448).

REMINDER: Receiving the Chesapeake Chemist

Hopefully, if you are reading the Chesapeake Chemist this month, you are receiving it via e-mail from us. We went to electronic only mailings to our MD ACS membership in October 2006. Please remember that we are dependant on the National ACS records for your correct, current e-mail.

Changing your e-mail address? Moving out of the MD ACS area? E-mail changes can be updated either by:

- E-mailing us at mdchem@mdchem.org – give us your member #, full name, and e-mail changes and we can ensure that your records are updated with National ACS.
- **Contacting the National ACS membership division: 800-333-9511 (US only)** or service@acs.org

To ensure that you receive the Chesapeake Chemist, please add the MD ACS e-mail (mdchem@mdchem.org) to your accepted e-mail address list IF you have a spam filter.

If you are a member who currently doesn't receive the Maryland ACS Chesapeake Chemist but download it from our website, it is possible that National ACS does not have your e-mail address on file. If you want to receive the Chesapeake Chemist via e-mail, please e-mail us at mdchem@mdchem.org – give us your member #, full name, and e-mail address and we can ensure that your records are updated with National ACS.

The current edition and previous editions of the Chesapeake Chemist can ALWAYS be obtained via our website: <http://mdchem.org> – please see the Newsletter Archive link on the right-hand side of the website.

Maryland ACS

Interested in how your dues get used and want to work on interesting member programs/projects? If you want to get involved with the Maryland Section Executive Committee and/or with section activities, we want to hear from YOU! The Maryland ACS Executive Committee meets 4 times during the year to discuss and plan activities. Please feel free to contact the chair, vice-chair, or chair-elect via e-mail to get more information on various areas/activities that you are interested in or that we would like to start or expand in the future. The amount of time to commit would be up to you but might be around 2 hours per month, depending on the activity. We are always looking for individuals with budget/financial, editing, and planning skills.

Get Involved, Stay Involved

As you know, the American Chemical Society offers many ways for its members and non-members to get involved at the local, regional and national levels. There are opportunities for everyone, whether you are a student, or just starting your career, or a seasoned professional. Are you interested in getting involved, but don't know where to start? Are you already involved with one or more ACS activities but need help finding resources? Please visit (<http://www.acs.org/getinvolved>) to find a streamlined list of links of helpful procedures and resources specifically geared towards your area of interest.

Alternately, you can contact the Maryland ACS Section directly... Like working with students? Have a talent for encouraging students in science? Have ideas for outreach events? Sign up for our volunteer news. Contact us at mdchem@mdchem.org.

Interested in holding your own Chemistry-in-the-Library Program?

We are looking at putting some supply kits together and having a short training event with luncheon for folks who plan to hold their own Maryland ACS sponsored science events at local libraries in the spring. Please contact us at mdchem@mdchem.org for more information.



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**3815 LANCASTER PIKE, WILMINGTON DE 19805
Voice 302-888-1184, Fax 302-888-1838**

**E-Mail micronanalytical@campuserve.com
WEB PAGE: www.micronanalytical.com**

The Chesapeake Chemist is e-published monthly September through June by the Maryland Section of the American Chemical Society. Send submissions to the editor in electronic format. The Maryland Section is not responsible for opinions expressed herein. Editorials express the opinions only of the authors. The editor is not responsible for all unsigned material.