

Chesapeake Chemist

*Maryland Section
American Chemical
Society*



“WITH KNOWLEDGE COMES RESPONSIBILITY.
A CASE FOR GREEN CHEMISTRY”

~ **DOUG RAYNIE, Ph.D.** ~

Department of Chemistry and Biochemistry, South Dakota University

Thursday, November 18 – 6:00 -8:15 pm – Stevenson University

ACS Maryland Section - Officers and Committee Chairs

Section Officers:

Chair 2010 - Alvin Kennedy, Morgan State University, (443) 885-3115; alvin.kennedy@morgan.edu

Vice-chair (chair 2010) - vacant

Chair-elect (chair 2011) - Takashi Tsukamoto, Johns Hopkins Medical Institutions, 410-614-0982, ttsukamoto@jhmi.edu

Secretary - Lance Baird, Johns Hopkins Applied Physics Lab, 301-395-7168, lance.baird@jhuapl.edu

Treasurer - Holly Cymet, Morgan State University, 443-885-3882, holly.cymet@morgan.edu; Department of Chemistry, Morgan State University, 1700 East Coldspring Lane, Baltimore, MD 21251

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pismith@umbc.com

Alternate Councilors: Shirish Shah (Towson), Joseph Topping (Towson), Sandra Young (ARL)

Members at Large: Maurice Iwunze (Morgan), Rose Pesce-Rodriguez (ARL), Suzanne Procell (ECBC), Angela Wells Winstead (Morgan)

Committee Chairs:

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

MD ACS Student Grants - Paul Smith, pjsmith@umbc.com

or Louise Hellwig, Louise.Hellwig@morgan.edu

Remsen Award (May/June) - Dana Ferraris; Dferrar2@jhmi.edu

Braude Award (October) - Louise Hellwig, Louise.Hellwig@morgan.edu, 443-885-2085

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

Maryland Service Award - Shree Iyengar - (410) 777-2266; ssiyengar@aacc.edu

Programs:

Archives - Ernie Silversmith - (443) 885-3214

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

Earth Day - Paul Smith, Lance Baird
(Lance.Baird@jhuapl.edu)

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

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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 & Paul Smith

Membership - Merle Eiss

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Student Affiliate Liaison - Louise Hellwig

Women Chemists/Younger Chemists - Sara Narayan -
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2011 Elections Committee:

Chair - Sandy Young (sandra.young@us.army.mil)

Members - Takashi Tsukamoto, David Roswell, Frank Switzer, Dana Gasiorowski

Educational Programs:

Chemistry Olympiad/Chem-a-Thon -
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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 - Greg Delahanty (contact-us@mdchem.org)

E-issues team: Mike Zapf, Frank Switzer, Sandy Young

Chesapeake Chemist Editor-in-Chief:

Takashi Tsukamoto (contact-us@mdchem.org)

Have a job to post?, a good news chemistry story? - contact the Maryland Executive Committee through e-mail via: (contact-us@mdchem.org).

November Meeting
WITH KNOWLEDGE COMES RESPONSIBILITY.
A CASE FOR GREEN CHEMISTRY

DOUG RAYNIE, Ph.D.

Thursday, November 18 – 6:00-8:15pm
Greenspring Campus Knott Hall, Room KH 122, Stevenson University
1525 Greenspring Valley Road, Stevenson, MD 21153

6:00 – 6:30 pm	Registration / Networking
6:30 – 7:15 pm	Dinner
7:15 – 8:15 pm	Lecture: Dr. Doug Raynie (Department of Chemistry and Biochemistry, South Dakota University)
Price	\$20 - ACS members, Guests; \$10 - students
RSVP	Dr. Shirish Shah at sshah@towson.edu or (410) 704-2720

Speaker Bio:



DOUG RAYNIE
Research Associate Professor
Department of Chemistry and Biochemistry,
South Dakota University
E-mail: Douglas.Raynie@sdstate.edu

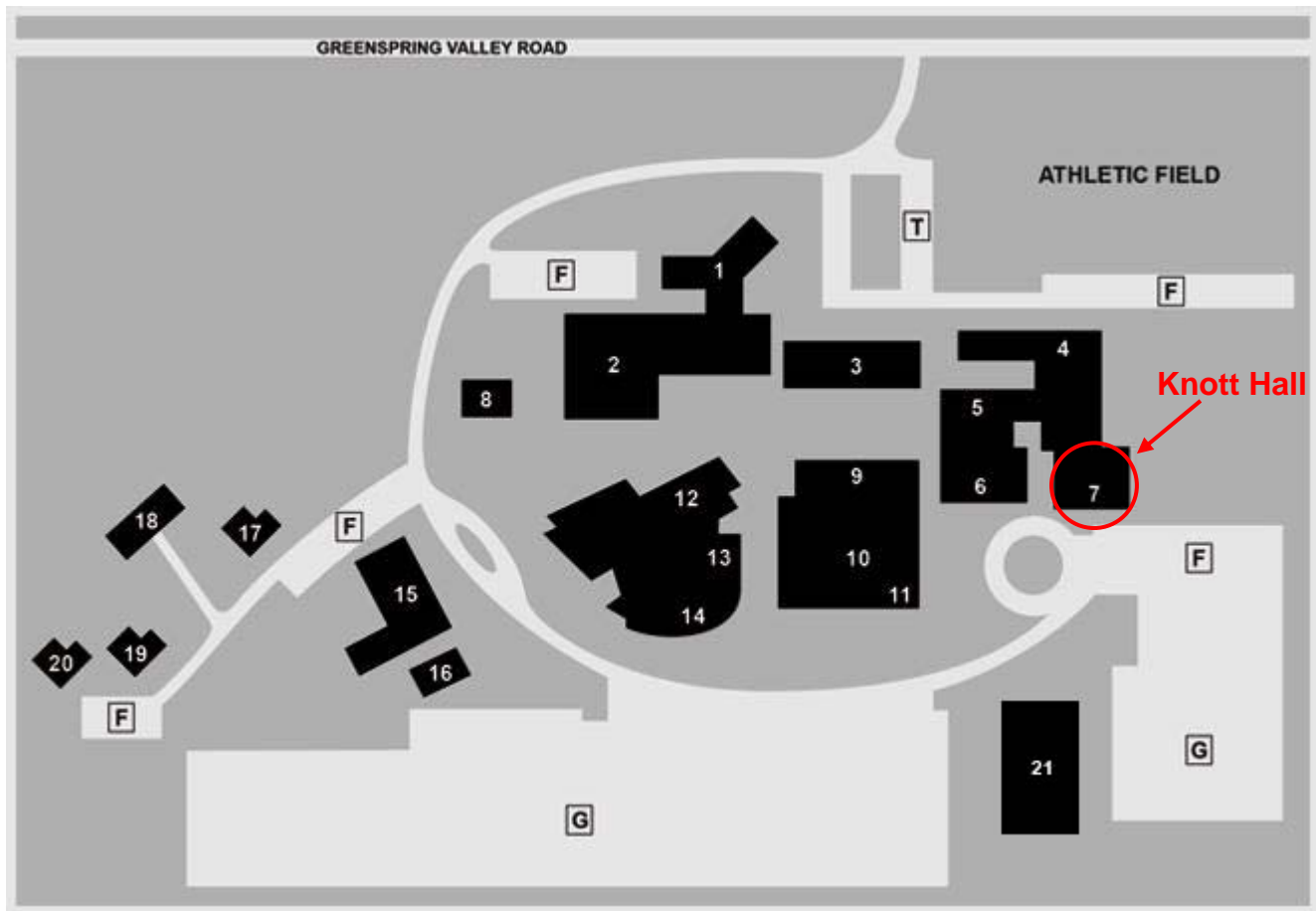
Following 11 years as an industrial analytical chemist for Procter and Gamble, Dr. Raynie joined the Department of Chemistry and Biochemistry at South Dakota State University in 2001, where he is a Research Associate Professor. His research interests are in the broadly defined area of sustainability and green chemistry. Specific projects involve the use of alternative solvents (supercritical fluids, ionic liquids, and deep eutectic solvents) for use in analytical chemistry (micro-scale high resolution chromatography, extraction, and sample preparation) and biomass processing (pretreatments for lignocellulosic ethanol, pyrolysis bio-oil upgrading, and lignin utilization).

Abstract:

If synthetic compounds are known to have environmental or toxicological consequences, it is reasonable to expect that chemists also have the responsibility, and the knowledge, to address these consequences. Moreover, it is reasonable to develop chemicals and processes that avoid these consequences, rather than address them after the fact. This is the basis for Green Chemistry. This presentation will discuss what green chemistry is and what it is not. Following this introduction to green chemistry, a simple means for assessing the green nature of chemical processes will be presented. While several such methods exist, we have developed a process that is simple, using primarily information found on a chemical's MSDS and NFPA information, so that two or more processes can be compared. Our procedure was developed for comparing analytical methods, but can be used for any chemical process. Following discussion of this green assessment, initial results on the replacement of EDTA with a non-persistent chelating agent, especially for the titrimetric determination of water hardness, and a novel class of solvent, deep eutectic solvents, will be presented.

Stevenson University, the Greenspring Campus Map

The campus is located just north of Baltimore on Greenspring Valley Road between Park Heights Avenue (Baltimore Beltway exit 21) and Falls Road (Baltimore Beltway exit 23B).



Directions to the Greenspring campus: 1525 Greenspring Valley Road, Stevenson, MD 21153

<http://www.stevenson.edu/explore/locations/directions/stevenson.asp#baltimore>

From the Baltimore City

- Take I-83 north (Jones Falls Expressway).
- Stay to left of expressway to the end where it turns into Falls Road.
- Turn left at the second light, Greenspring Valley Road.
- The University is two miles on the left.

From Washington, DC and Northern Virginia

- Take I-95 north toward Baltimore to the Baltimore Beltway (I-695) north toward Towson.
- Proceed to exit 21, Park Heights Avenue north. Turn left at the end of the off ramp.
- Turn right at the second traffic light, Greenspring Valley Road.
- The University is 2 miles on the right.

Help needed for coordinating the Chemistry Olympiad Program

The MD Section is looking for a coordinator for the International Chemistry Olympiad program. Activities will begin in February 2011. The tasks require an initial mailing to solicit participation, coordinating the exam site and timing (3rd Saturday in April), and communications before and after with the selected students, teachers and the ACS National staff. Assistance from the current committee will be given and a budget is approved. The Section has been involved with this program for more than 26 years and we've had several students attend the Olympic training camp and had two Olympians during this time.

For further information, please contact Mike Zapf or Shrish Shah; mike_zapf@mccormick.com, sshah@towson.edu.

Nominations Open For Remsen Award

The ACS Maryland Section is seeking nominations for the 2011 Remsen Award, named in honor of Ira Remsen, John Hopkins University's first professor of chemistry and second president. Remsen Award lecturers are chemists of outstanding achievement, in keeping with Remsen's long and devoted career as a proponent of the highest standards in teaching and research in chemistry. The award consists of a plaque and an honorarium.

Nominators should use the form for ACS national awards available at www.acs.org/funding. (Click on the link for "National Awards" then "Nominating Procedures" to reach the page containing the downloadable form). Send the completed form and brief nominee curriculum vitae to Dana Ferraris at dferrar2@jhmi.edu by Nov. 30.

MD ACS 2011 Election Results

Thanks to all the members for a successful electronic election. The election closed at midnight on October 22, 2010. We received 269 ballots (out of 2120 members). All following candidates were elected:

Vice-Chair: Holly Cymet

Chair Elect: Sara Narayan

Secretary: Lance Baird

Treasurer: Holly Cymet

Counselor: Paul Smith and Merle Eiss

Alternate Counselor: Sandy Young

Members at Large: Rose Pesce-Rodriguez, Mike Zapf, Suzanne Procell, Liina Ladon, and Angela Winstead

The Chair-Elect term is a *3 year* term: the candidate is Chair-Elect for one year, and then moves to Vice-Chair for one year, followed by Chair for last year. The Chair progression makes it easier for the candidate to learn what is necessary to run the Section. A Councilor term lasts for *3 years* and our Section has *4 Councilor positions*. The next 2 Councilor positions will end in 2012 and so new positions for Councilor will be elected in 2012 for 2013.

Recap: October Activities

The Braude Award

The Braude Award dinner meeting was held Weds. Oct. 20 at UMBC. The Braude Award recognizes outstanding university professors whose research includes undergraduates, and the 2010 winner is Dr. Michael F. Summers, Howard Hughes Medical Investigator at UMBC. He received a framed certificate from George and Monique Braude's nearest surviving relative, Anne Marie Parker, and her husband, David. He also received a check to support his research. Dr. Summers' presentation was entitled "New Insights into the Mechanism of HIV-1 Assembly".



UMBC chemistry club

The UMBC chapter hosted NCW events on campus including a periodic table of cupcakes, UMBC beaker mugs, bake sale, periodic table blanket raffle and going along with the "Behind the Scences" theme, we had a contest to guess how much popcorn was in a 2 L flask as well as a display of flubber, fake snow, candy glass, and fake blood as well as the chemistry behind these movie props.

Also, in October, the club decorated the chemistry office for Homecoming Spirit Week. 11 students attended the Braude Award dinner. Several students helped the chemistry department by volunteering at the Undergraduate Research Symposium on October 30.



Morgan State Chemistry Club

Morgan State University Chem Club celebrated National Chemistry Week with a contest to see who could list the most movie titles involving an element from the periodic table, e.g. “Goldfinger” or “Silverado”. The winner listed 84 movies plus several made-for-TV movies, documentaries, and shorts, and won a \$50 AMC gift card (left photo). Chem Club also had a NCW table in the lobby of the science complex; students could take a quiz based on elements in movie titles and/or make slime.

An Army representative spoke at a Chem Club meeting about the Health Professions Scholarship Program, in which students can get their medical/dental/optometry school education paid for by the US Army in return for four years service as a military doctor.

Chem Club spent two hours helping our General Chem lab coordinator tidy up a lab by cleaning balances, cabinets, drawers, etc. (right photo).



And two Chem Club officers attended the October local section meeting at UMBC and had a good conversation with the speaker, Dr. Michael Summers.



2010 National Chemistry Week

The Maryland Section of the American Chemical Society mobilized to get out the word about Chemistry in this year's National Chemistry Week (NCW) activities. From mid-October through early November, volunteers have worked on hands-on activities with students from 10 schools, 6 libraries, and 2 youth centers - mostly on the 3rd - 5th grade levels but also with younger and older students. There are still visits to come at 5 more schools and 3 libraries in visits that stretch through into November and the days before Thanksgiving. When all is said & done, volunteers will end up working with approximately 2,000 students in Baltimore City and Baltimore, Cecil, Harford, and Howard counties.

The theme for NCW 2010 is 'Behind the Scenes with Chemistry' (themes are picked by National ACS Office of Community Activities) but local volunteers largely come up with the experiments. Sessions are planned for 1-hour timeslots and 3-4 short experiments are selected to do so that if a shorter time period is needed, one experiment can be removed.

This year, volunteers did 4 different experiments with the students related to chemistry seen in the movies and on TV. Experiment #1 was more of a demo showing students creation of fog through the usage of dry ice and separately through fog machines. There was also a brief introduction to the usage of fog (and really light scattering) to 'reveal' laser sensors in movies such as Mission Impossible and other movies. Experiment #2 revealed the chemical secrets of invisible ink (aka Harry Potter), which is just a simple pH reaction with an indicator. Experiment #3 looked at the commonly watched crime shows and how they often collected evidence and how simple testing could be done to determine an unknown powder. And experiment #4 was an old but always popular experiment - making slime!

Often heard comments from students included: 'this is the best thing I've ever done in school!', 'this is SO cool!', and 'will you come back tomorrow?'. Comments that are great rewards for folks taking some time out of their work day to work with these young students.

By Sandy Young

Applications are Being Accepted for the 2011 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. Louise Hellwig, Morgan State University, Department of Chemistry, 1700 Cold Spring Lane, Spencer Hall Rm. 318B, Baltimore, MD 21251 or sent via e-mail: louise.hellwig@morgan.edu



Fall-Winter 2010 - Important Dates



November 18, 2010
(Thursday)

November Meeting – Stevenson University

December 8, 2010
(Wednesday)

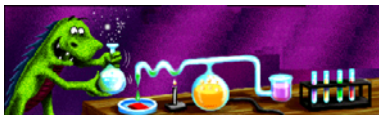
Maryland Chemist Award Lecture – UMD School of Pharmacy



Join us on meetup.com to keep up with Section Events (dates for meetings), Discussion Boards (including job postings), photos from events & more!

(Meetup is FREE for individual members and does NOT require you to post your general information beyond your name.)

<http://www.meetup.com/Maryland-American-Chemical-Society/>



K-12 Educational Outreach

We know that people have limited time. But taking the time to mentor others, as all of us were once mentored by someone, is a truly fulfilling experience. If you have any questions or are thinking about helping out with a future event, please feel free to contact us at (contact-us@mdchem.org).

Plants & People Sundays at the Rawlings Conservatory

The Howard Peters Rawlings Conservatory & Botanic Gardens in Druid Hill Park runs various programs on Sundays. The 2nd (Exploration Station), 3rd (Story Hour), and 4th (Ask a Scientist) Sundays are programs directed towards K-12 students and often include hands-on science activities.

Where: Howard Peters Rawlings Conservatory & Botanic Gardens, 3100 Swan Drive, Baltimore, MD 21217 (by the zoo)

When: Almost every Sunday

For more information, visit their website or call (410) 396-0008 for details on the upcoming Sunday program!! (http://www.baltimorecity.gov/government/recnparks/special_facilities.php#Howard)

Other Educational Outreach Programs

With recognition of the decreasing numbers of trained STEM professionals that are US citizens, the general decline of hands-on activities in Science, Technology, Engineering, and watering-down of Mathematics in many K-12 programs, and many people's general lack of understanding of STEM topics in society, the Department of Defense has coordinated many of their programs into single websites that contain a wide-range of educational outreach programs, internships, and scholarship opportunities available for K-12, undergraduate, graduate students and beyond.

Information on the wide-variety of programs through the **US Army Educational Outreach Program (AEOP)** can be found on their website (<http://www.usaeop.com>).

Information on the wide-variety of programs through the **National Defense Education Program (NDEP)** can be found on their website (<http://www.ndep.us>).

Many of the programs/opportunities that are listed on these two sites are available to students for participation in Maryland locations.

Job Hunting Corner

Job Hunting?

We don't always have job posts in the Chesapeake Chemist. But if you have a position available locally, you are welcome to send them to us for posting in the Chesapeake Chemist. If you are job hunting, remember to put your membership to work by using the ACS job bank: (ACS Careers: www.acs.org/careers).

ACS offers special benefits for unemployed members

During these tough economic times it's more important than ever to belong to the American Chemical Society. Unemployed members can tap into a host of valuable benefits and services that help them get back in the workforce. And, members in good standing may qualify for an unemployed member dues waiver, allowing them to renew their memberships and keep their member benefits at no cost. Contact ACS at service@acs.org, 800-333-9511 or 614-447-3671 for complete details.

Other valuable benefits that help ACS member get back in the workforce include:

- Free registration at ACS National Meetings and registration fees at Regional Meetings of just \$25. Meetings offer ACS Career Fairs with on-site interviews.
- Special discounts for ACS/Harvard courses, ACS ProSpectives and Short Courses, and the ACS Leadership Development System.
- Membership in the ACS Network, your online resource to connect and communicate with friends, colleagues, and potential employers
- Free Guidance from ACS Career Consultants - ACS mentors offer resume reviews, job search strategies, and interview tips that make you stand out from the rest.
- Free access to InterviewStream, an online tool that will sharpen your interview skills
- Members-only access to the ACS Salary comparator.
- And more!

Contact ACS customer service today at service@acs.org, 800-333-9511 or 614-447-3671 today and let us know how we can help.

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 contact-us@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 (contact-us@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 contact-us@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.

Call for Volunteers for Committee Positions

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.

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

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

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 contact-us@mdchem.org.



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