New Haven Section
American Chemical Society
Newsletter

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New Haven Section Chartered in 1912
www.newhaven.sites.acs.org

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Message from the Chair

This time of year I think of how chemistry helps keep Connecticut safer. Salt lowers the melting point of the ice and snow on our roads, often giving us wet rather than icy roads. Small pellets of SiO_2 help improve traction in winter.

We have about 900 members in the New Haven section of the ACS. We had an election of officers last Fall and 39 members voted; a lower turnout than even state legislature elections. The following were elected: Dr. Camille Solbrig Chair-Elect, Dr Max Reeve, Treasurer, Dr. Gerald Putterman, Councilor, Dr. Kap-Sun Yeung and Dr. Steve Cantor both Alternate Councillor.

Dr. James Kearns of SCSU led a successful Chemistry Week event described later in this Newsletter.

Sara Dampf, a senior at UNH, is leading an effort to have a "Battle of Chemistry Clubs" with chemistry clubs from at least two other local Universities. She got a grant to help fund this and also got financial and other support from the New Haven section.

These are two examples of members of our section doing chemistry related projects. Do you have one close to your heart? Would you like to speak about it at one of our meetings? If so, come to one of our meetings and tell us or email new.haven.chemists417@gmail.com
Please enjoy the newsletter!

Message from the Chair-Elect

Camille Solbrig

ACS Leadership Training

Every year since 2006 the local sections have been able to send a representative to leadership training sponsored by the National ACS over a weekend in Dallas where section leaders spend the weekend thinking about and practicing skills and tools to use to run their sections. Since I was just elected chair-elect for 2015, I was given the opportunity to attend.

National ACS board of directors and district leaders were available at the training, as was the current president of the organization, Diane Schmidt and president-elect, Donna Nelson, who was our featured speaker at NERM 2013. On Sunday there was a special feed-back session on the strategic plan set out by the ACS for the next 5 years. Facilitators collected comments on each of the 5 goal statements set forth in the plan, then, summarized the comments at the end of the session for the attendees.

I participated in the local section leader training sessions held Friday through Sunday. During sessions involving sections from all over the country, my fellow section leaders from New England were seated at my table and were my teammates throughout the sessions. We were tasked with developing a project or event with intra-district participation. The New Haven section (me!) partnered with the CT Valley Section and Rhode Island section representatives while the Green Mountain Section in Vermont and Northeast Section created another team. The CT-RI team built an event that we could run together that would encourage the participation of younger chemists in our section's activities. We used skills that were learned in more focused training sessions on Strategic Planning and on Motivating Volunteers to design our event. The take-aways from these sessions, for me, were that you actually need to do focused planning to help your section grow and you need to invest time in encouraging motivated volunteers to do the work involved in reaching the goals in your plan.

I am looking forward to working with my fellow section leaders in New England, as well as supporting the Western New York sections who are engaged in putting together NERM 2015 in Ithaca, NY in June. Stay tuned for more information about intra-district activities in the future.

At the end of the training the New England attendees all scrambled to get back home before storm Juno hit up north and snowmaggedon was unleashed. I wasn't so lucky, as I got stuck for 2 nights in Boston before I could get to my car at the Providence airport.

ACS Leadership Training, New England Contingent
(Left to Right, Back row: David Heroux, chair-elect, Green Mountain section, VT; Neil Glagovich, chair-elect, CT Valley section; Front Row: Susan Meschewitz, secretary, Rhode Island section; John Jasinski, chair-elect Northeast

section, MA and NH; Camille Solbrig, chair-elect, New Haven section.

A Salute to Longevity:
Recognition of 50- & 60- Year Members from 2014

The Officers of the Section are pleased to announce that the following Section members will reach the milestone of 50 or 60 years of membership in the American Chemical Society in 2014.

50- Year Honorees for 2014
Dr. Gary Lee Haller
Dr. Herbert Malkus
Mr. Lawrence P. Martin
Dr. Manfred Noack
Mr. Timothy O'Keefe
Dr. Marie Zuckerman

60- Year Honoree for 2014
Mr. James Haglind

COUNCILOR REPORT
Gerald J. Putterman, Councilor
New Haven Section

In this column I thought I would try to answer briefly some of the questions I have received from section members regarding the role of the Councilor, the role of the Council, itself, and more recently, the role of the region (as in NERM).

The Council and the Board of Directors are the two deliberative bodies that govern ACS. The Council meets on Wednesday morning at each of the two ACS National Meetings. The President of ACS presides at the meetings and reports are presented by the officers of ACS as well as by Committee chairs. Councilors must vote on items including Committee members and most importantly on reducing the ballot for ACS president from 4 candidates (proposed by the Committee on Nominations) to 2. (That effort had little effect as a write-in candidate, Donna Nelson, was elected by the ACS membership.)

The New Haven Section belongs to District I. Local sections comprising District I include those in New England, New York State and parts of Pennsylvania. Local Sections can be moved to other districts if the total membership of the district exceeds a specified number. In fact the number of councilors for a particular Local Section depends on the total number of ACS members in that section according to a special formula that is currently under revision and will influence the 2016 election. Thus, the New Haven Section currently has 2 Councilors but that number could increase or decrease in 2016 depending on the number of members in our section.

The Councilors from District I hold their own meeting, called a caucus, the evening before the Council Meeting to discuss issues of interest that will be discussed and/or voted on at the Council Meeting. This caucus is presided over by the District I Director who is a member of the ACS Board of Directors. I had the opportunity at several caucuses to get on the agendas to present progress reports on our preparations for NERM 2013 as well as to ask that district Councilors encourage their members to attend NERM 2013.

In addition to being in District I the New Haven Section is a member of the Northeast Region, whose main function is to sponsor regional meetings enabling those who cannot attend a national meeting to still be able to attend a smaller, nearby meeting and present and listen to/view quality papers and posters. The Northeast Region also presents awards to individual chemists and teachers. Having served as a judge for one of the awards presented at NERM 2012, I have been asked to serve on a committee revising the application process for these awards. Since the Northeast Region committee meets at the national meetings, I have attended those committee meetings as well.

In general the Local Sections in District I are also in the Northeast Region, however that is not necessarily the case. The Local Sections of the Northeast Region are in New England and

Upstate New York. Thus, while the New York City section is in District I, that section is in the Middle Atlantic Region. Since that region did not have a regional meeting (MARM) in 2013, information on NERM 2013 presented at the District I caucus served as a stimulus to get members from New York City to attend NERM 2013.

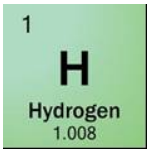
General Meeting 2014 -2015 Summaries

Doing Things Less Bad is Not Enough….

On October 16, 2014, Dr. Paul Anastas gave a lecture to the New Haven Section at the Graduate Club in New Haven. Dr. Anastas is from the Yale Center for Green Chemistry and Green Engineering and is widely known as the "Father of Green Chemistry" for his ground breaking work on non-hazardous and environmentally friendly design and manufacture of chemicals. He has authored numerous articles and books and has served in many positions within EPA, including as Assistant Administrator and Science Advisor to the Agency. He lectured on "Green Chemistry and Transformative Innovation". He started the lecture saying that "all we have is energy and matter", and showed a picture that looked like abstract art, but on zooming in turned out to be a field of disposed plastic grocery bags. We use 60,000 plastic bags in the US every five seconds. There are chemicals in common use today that are linked to developmental delays, other endocrine disrupting effects.

He was not advocating that we go back to the stone age, but was saying that we were "doing the right things, wrong", that some of the things we were doing to ameliorate problems had unintended consequences, like energy savings from using compact fluorescent lights was reliant on toxic heavy metals. He believes that the solutions must be designed from a systems context considering functionality in the context of toxicity reduction. One approach is to relate toxicity endpoints to molecular features, which can be done by computational modeling. He provided examples from work currently being done by his group at Yale. He also pointed out that we can learn from nature as we strive to improve processes. Transformative innovation is the key to the future design where the benefits of a product can be achieved sustainably. For example, coffee used to be decaffeinated with methylene chloride, and is now decaffeinated more sustainably with supercritical carbon dioxide. He asked "what about growing coffee beans that do not contain caffeine?" He ended with the unspoken motto of the green chemistry community… "There is no desire to do the best green chemistry. We will do the best chemistry, and it will happen to be green."

The Science and Applications of Making Hydrogen from Water and Electricity



Dr. Katherine Ayers, Director of Research at Proton OnSite of Wallingford, CT. presented at the November 13, 2014 General Meeting held at the Waverly Inn in Cheshire, CT. Proton's core technology is proton exchange membrane based electrolysis of water to produce hydrogen. Proton's objective is to provide technologies for the localized production and storage of energy. The company manufactures electrolyzers to produce hydrogen wherever their customers (both private and governmental) need it. Her presentation discussed the chemistry behind the technology as well as its practical applications.

A highlight of the meeting was the hydrogen powered SUV that Dr. Ayers brought. It

contained three small hydrogen cylinders, a fuel cell and a battery. It had more than 150,000 miles on it and had been in three accidents including a rear end collision. This demonstrated the safety of the vehicle because the hydrogen cylinders are located in the rear of the vehicle.

More than thirty people (including high school students and their teachers) attended the meeting.

Summary of SCSU's Chemistry Club's ACS Chemistry Week Poster Competition
James Kearns, SCSU

1539 teachers in southern Connecticut schools were contacted by email by Southern Connecticut State University Chemistry Club students, inviting them to participate with their students in a poster contest, presentation and campus tour. On the morning Friday October 24th 2014, 37 students from St. Bernadette's in New Haven arrived at Southern Connecticut State University. Members of the undergraduate ACS Chemistry Club offered tours through general chemistry labs, instrumental labs, marine studies labs, and a microbiologist gave a talk on her field of study. Finally, students toured the lecture halls. The students proceeded to Engleman Hall where, with the help of nine volunteers from the chemistry club and marine studies program, they assisted in hanging the posters. During that time we celebrated the ACS designated topic "The Sweet Side of Chemistry - Candy" by sampling some. Then, provided with rubrics from the National Science Teachers Association, the Chemistry Club volunteers numerically graded the posters. Teams of student volunteers talked to students and determined the top five winning posters. Finally, after a pizza feast, the middle school students departed at 12:30 PM guided by two undergraduates.

New Haven Science Fair 2015

We will again be offering up two ***Excellence in Chemistry*** awards ($100 for Grades K-8; $100 for Grades 9-12) at this year's science fair.

The Science Fair will take place May 11 & 12, 2015 at University Commons, Yale University.
Monday, May 11, 2015, 5:00 to 8:00 pm: Judging
Tuesday, May 12, 2015 - 9am-1:00pm: Final Judging. 1-6pm: Public Viewing.
Wednesday, May 13, 2015 - 9am-9pm: Public viewing and Awards

If you would like to judge and represent the New Haven Section, please contact Dr. Ken White. charles.ken.white@gmail.com

If you would like to be a general judge, please contact New Haven Science Fair Program, 203-782-4341. www.nhsciencefair.org

2014 New Haven Science Fair
David Smudin

The 20th Annual New Haven Science Fair was held at Commons Hall, Yale University, on May 12 to 14, 2014. A total of 234 projects exploring ideas in both the biological and physical sciences were entered in this year's fair. The entries were submitted by students in grades PreK through 12 from schools in New Haven.

The New Haven Section is proud to be a part of this program and for the past several years has supported it both financially and professionally. In addition to providing monetary awards for *Excellence in a Chemistry Related Science Fair Project* in the pre-K to 8, and 9 to 12 grade categories, the Section also provides judges for this event. Judges from the Section for the 2014 Science Fair were Drs. C. Kenneth White, Jerry Putterman, Yane-Shih Wang, Wei Liu, Somnanth Chowdary, and David Smudin.

Each project of a chemical nature was judged with respect to the problem to be studied, the hypothesis, the application of the scientific

method to test the hypothesis, the collection and interpretation of data, and the explanation and reporting of results.

Because of the level of excellence of many of the projects submitted this year, the Section's judges found it difficult to select only one best project from each of the grade categories presented earlier. For this reason they agreed to select two projects from each grade category, declare a tie, and award them equally.

The awards for *Excellence in a Chemistry Related Science Fair Project* from grades Pre-K through 8 were presented to Grace Trufan, a student in Ms. Weber's 6th grade class at the Barnard Environmental Studies Magnet School, for her project entitled *Fishy Food,* and Sara Thakur, a student in Mr. Jones' 8th grade class at Worthington Hooker School for her project entitled, *Bases Trap Gases*.

The awards for *Excellence in a Chemistry Related Science Fair Project* submitted by students in grades 8 through 12 were given to Young-Jae Kim, a 9th grade student in Ms. Rodi's Class at Wilbur Cross High School, and Lauren Low, a 9th grade student in Mr. Rushworth's Class at Engineering and Science University Magnet School. Mr. Kim's project studied the *Emission of Radiant Energy by Different Colors*. Ms. Low's project explored, *The Effect of Pseudomonas Putida on the Degradation of Different Plastics.*

Obituary

Aspet Merijanian
1928 - 2014
ACS member for 52yrs

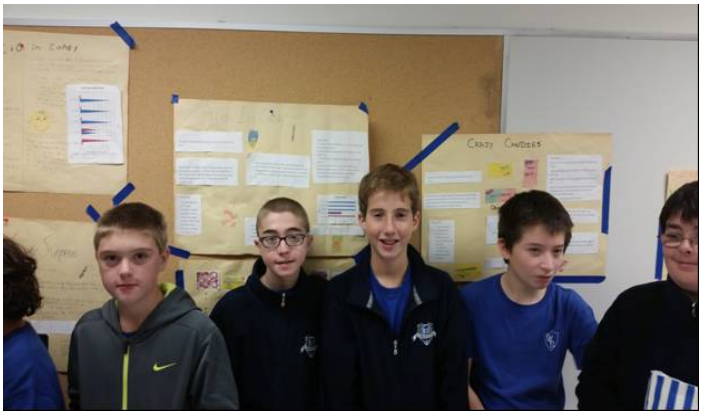
Dr. Aspet "Ozzie" Merijanian, 86, died in June, 2014. Ozzie was born in Abadan, Iran. He immigrated to the United States as a young man and pursued his education with emphasis on the field of chemistry. He earned his bachelor's and master's degrees at Southwest Texas State University, and his Ph.D. at Texas A&M under Professor Ralph Zingaro.

Upon receiving his Ph.D. he joined Uniroyal, Inc. as a research scientist, at its Wayne N.J. location. He relocated to Connecticut when the company moved its R&D headquarters to Middlebury in the early 70's. At Uniroyal his research was primarily focused on the development and curing of a variety of polymers for various applications. He received several patents for his work. He also served as a mentor to many younger chemists joining the company. Ozzie joined Uniroyal in 1964 and remained with the company, through several reorganizations, until his retirement in 1995.

Ozzie was very active with the Local Section having served as its Chairman in 1988. He preferred to become involved with special Section projects that were important to the operation of the Section rather than run for office. In that regard he was the Section's voice at Yale during the selection of several Kirkwood Award recipients. He chaired the Section's Chamberland Award Committee, and lead the committee which revised the Section's By-Laws in 2000.

Ozzie was a regular attendee at meetings of the Local Section's general membership. His presence was missed by many of the members when declining health prohibited his attendance at these meetings.

SCSU's Chemistry Club's ACS Chemistry Week Poster Competition



Remember When?

34 Years Ago

The October, 1980, meeting of the General Membership was held at the Red Coach Restaurant in West Haven. At that meeting the Section's Maurice R. Chamberland Award was presented to Professor Matthew L. Thakur of the Yale University School of Medicine. Professor Thakur's Chamberland Award Address was entitled, *Potential Applications of Indium-III Labeled 8-Hydroxy Quinoline.*

The December meeting, held at J. J. Starts in Hamden, featured Professor Philip Eaton of the University of Chicago, who spoke on *The Synthesis of Higher Prismanes*.

25 Years Ago

Professor Yung-chi Cheng, Dept. of Pharmacology, Yale School of Medicine was the speaker for the December 5, 1989 Section Meeting, which was held at the Britannia Spoon Company in Yalesville. The title of Professor Cheng's presentation was, *The Development of Anticancer and Antiviral Agents.* The meeting was presided over by Chairman Steven Fine.

15 Years Ago

Chairman James Kirby presided over the November 1999 meeting of the membership, which was held at Damon's Restaurant in Cheshire. The speaker for the evening was Professor Anthony M. Trozzolo of the Department of Chemistry and Biology, Notre Dame University. Professor Trozzolo spoke on the topic, *Photochromism – Molecules that Curl Up and Dye.*

5 Years Ago

Chairman Dennis Jakiela presided over the December 2009 meeting of the Membership which was held at the 95 Gathering Place, Wallingford. Professor Michael Shapiro, Department of Pharmaceutical Chemistry, School of Pharmacy, University of Maryland, was the speaker for the evening. The title of Dr. Shapiro's talk was, *Intersection of Biophysical Studies and Drug Design. Use of the "Efficiency Coefficient" and "Drug Design Matrix."*

Full Time (Fixed Term) Faculty Position Announcement

Department: Chemistry **Rank: Assistant Professor**

Specialization(s): General Chemistry

Brief Description of Duties/Responsibilities:

The successful candidate will be expected to teach undergraduate lectures/labs in freshman chemistry commencing in August 2015. The candidate must be committed to teaching within a vibrant/demanding public liberal arts and sciences environment, and demonstrate the potential for excellence in teaching and mentoring undergraduate students for student success. This position is full time for the period of one year, and is renewable for a second year based on mutual agreement. It is an expectation that all full time faculty members at SCSU participate in department/university service. Nominal teaching load is 12 credit-hours per semester.

Required Qualifications:

A Ph.D. in Chemistry with experience teaching a curriculum consistent with ACS accreditation standards. An ability to assess student writing according to ACS style guidelines is required and should be demonstrated in the application materials. ABD candidates will be considered if Ph.D. is anticipated by time of appointment.

Preferred Qualifications:

Preference will be given to those who have demonstrated a strong record in teaching general chemistry.

Application Process:

Please submit a letter of interest, current Curriculum Vitae, copies of undergraduate and graduate transcripts (official copies are required for permanent employment), and two letters of recommendation to (letters should be from persons familiar with the candidates teaching abilities):

Dr. Gerald Lesley, Search Committee Chair
Chemistry Department
Southern Connecticut State University
501 Crescent St.
New Haven, CT 06515
Email: lesleym1@southernct.edu

For further information about the Chemistry Department at SCSU please visit our website at: http://www.southernct.edu/chemistry/

In order for your application to be given full consideration, all materials must be received by March 20, 2015. Position will remain open until filled.

Registration is now open!

Abstract Submission is now open!

Don't forget to book your housing! Information can be found atnerm2015.sites.acs.org.

Please note the following important award deadlines:

Stan Israel: 3/1/2015
E. Ann Nalley: 4/1/2015
High School Teachers: 4/1/2015

*Please go to http://nerm2015.sites.acs.org/awards.htm for nomination forms and nomination submissions.

Know a high school in your region that may be interested in submitting a nomination? Please feel free to forward the High School Teacher award information on to them!

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Younger Chemists Committee
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Message from the Chair

Dr. Ken White

This is the second newsletter this year: a record for recent years. We have had four general meetings this year, not a record, but about normal.

Your Executive Board is in the midst of changes.

Jack Bennett, our secretary is leaving this summer for Laurence Livermore Lab in California. Quite a change for someone who has lived all of his life in Connecticut. Jack has been our Secretary for about two years. Besides keeping the minutes of the Executive Board meetings, he decided our meeting notices needed an overhaul, so he did it on his own. Those "Save the Date" notices you have been getting are his. Jack suggested several top-notch speakers: Dr. Jason White head of the CT Agricultural Station and Dr. Paul Anastas of

Yale. These speakers are indicative of the thoughtful and insightful contributions Jack has made to the Board. He will be sorely missed.

Ms. Katy Kuhr joined the Executive Board as Chairperson of the Younger Chemists Committee. When Jack leaves later this summer, she will take the additional position of Secretary. She works at PerkinElmer. While she was at UNH, she revitalized their undergraduate chapter of the ACS. She was on the NERM committee and lead the UNH undergraduates in an essential supporting role in the meeting. We are excited to have her on the governing Board of the New Haven Section of the ACS.

Message from the Chair-Elect
Camille Solbrig

If you read the newsletter article describing our last few meetings you'll see we have had some interesting speakers. We have had on average between 30-35 members attend each event. However we would like to increase participation in meetings and in section activities altogether. In order to make this possible please take a few minutes to answer some of the questions below pertaining to section meetings and why you may or may not have participated in one recently. You can send your comments to me at newhaven.chemists417@gmail.com

1. What **most** influences whether you will attend a section meeting?
Where and when it is scheduled.
The topic being presented by the speaker.
Whether you are busy that day and can spare the time

2. Do you have suggestions on how to change the item you listed above so that you could more regularly attend section meetings?

3. In March we had a purely social event at a local brewery with no speaker (other than the brewmaster's tour). Would you be likely to attend these events if we had more of them?

4. Would you interested in getting involved in running the section and its events by being an officer or committee chair?

5. What other programming ideas might you have to increase participation?

Younger Chemists Committee
Kathryn Kuhr

The New Haven Local Section has recently introduced their very own Younger Chemists Committee! Younger Chemists Committees (YCC) have three main objectives: make ACS relevant to younger chemists (up to age 35), increase the involvement of YCCs and younger chemists at all levels of ACS, and assist in the integration of younger chemists into the profession. The New Haven LSYCC will be planning events focused on the professional development of its members as well as learning about local opportunities in the chemical profession. Interested in getting involved? Contact Kathryn Kuhr at katyak92@verizon.net.

Save the Date -September 21, 2015

"***Postmortem Redistribution - Mechanisms, Consequences and Cases.***"

Who: Robert H. Powers, Ph.D., F-ABFT
Associate Professor
Department of Forensic Science
Henry C. Lee College of Criminal Justice and Forensic Sciences
University of New Haven

When: September 21st, 2015
Where: Brazi's Restaurant
201 Food Terminal Plaza,
New Haven

ACS Section Meetings Winter/Spring Recap
Dr. Camille Solbrig

Section meetings are held throughout the year to present speakers on various topics that could be of interest to our members, to personally connect members throughout the section, and to keep members up to date on happenings within ACS. There have been 4 local section meetings so far

this year. The meetings for the New Year started off with the January meeting where Henry Auer addressed the topic of climate change. Dr. Auer presented the evidence for the effects of increasing greenhouse gases in the atmosphere and a lively discussion ensued.

In March, we came together to socialize and learn about the craft brewing industry that has blossomed in the New Haven region by listening to New England Brewery owner Rob Leonard talk the business of making beer. The event brought out many people who hadn't been to a meeting lately. Should we have one (or more) of these every year? The members concluded that New England Brewery beer goes great with pizza!

April is the time when we hear from the NH section's undergraduate research awardee. A stipend is awarded to a chemistry student on a rotational basis working with a professor at either UNH, Quinnipiac or SCSU. This year UNH student Stephen Zambrzycki enlightened us about his research work in Professor Eddie Lusik's lab creating biodiesel fuel from acorns harvested in New Haven. The event was held at Brazi's restaurant in New Haven.

Steven Zambrzycki speaking about his research on Biofuels from acorns.

In May we gathered at Eli's on Whitney in Hamden to hear from Dr. Robert Rafka, a speaker who is listed with the National ACS speaker's bureau. Dr. Rafka, an organic chemists and High School Physics teacher, provided us some timely information for gardeners in the crowd about his investigations into soil chemistry and the uses for compounds found in native plants. During our May meeting we also honored award winners from the Chemistry Olympiad, our National Chemistry Week poster contest, Earth Day poster winners and 50+ year ACS members Dr. David Smudin and Dr. Jan William Francis Wasley. Meeting timing did not allow us to honor the special awardees from the 2015 New Haven Science Fair, but we hope to honor them later in the year.

Dr. Rafka speaking on Gardening Superstitions at our May section meeting.

Councilor Report

Gerald J. Putterman

The Section's Newsletter is being issued shortly before the ACS National Meeting to be held August 16-20. Thus I have chosen to provide a brief preview of Councilor activities for that week.

The upcoming National Meeting is somewhat unusual in that it is taking place closer to home (Boston). In addition the District I Council Caucus (which I described in our previous Newsletter), due to a scheduling conflict, is being held Sunday evening, August 16, rather than on the customary evening before the Council meeting. Furthermore, because the Northeast Regional Board (NERACS) met during NERM 2015, there won't be a NERACS Board meeting at this National Meeting, however, some NERACS committee meetings will be held during the week.

At the Council Meeting, reports will be presented by the Officers of ACS, Elected Committees of the Council, Society Committees, Council Standing Committees and other Committees.

Councilors will be asked to vote for candidates to serve on the Committee on Committees, Council Policy Committee and Committee on Nominations and Elections. It is that last named committee that prepares a slate of candidates for each committee election and provides biographies for each candidate to assist us in making our choices. Of particular interest to our Section are candidates: NERACS Board member Julianne Smist from the CT Valley Section and Doris Lewis from the Northeastern Section, who received the E. Anne Nalley Award at our NERM 2013 banquet.

Councilors will also be asked to approve a change in the Society bylaws as well as approve the charters of the following international chapters: United Arab Emirates, Peru, Nigeria, Brazil, and Australia. Final approval is contingent upon the approval of the ACS Board of Directors.

Other items requiring votes may occur at the Council meeting during New Business. For those of you who will be in Boston, feel free to attend the Council Meeting, which will be held at the Grand Ballroom of the Sheraton Hotel on August 19, starting at 8:00 AM.

Take-Aways from NERM 2015 Regional ACS Meeting held in Ithaca NY in June

Camille Solbrig

The New England Regional Meeting for 2015 was held June 10-13 at Ithaca College in Ithaca, NY and was hosted by the ACS Cornell Local Section. The overall theme of the meeting was "Go Green". Programs were passed out in green-colored plastic bags in keeping with the theme. The event provided ample parking and meeting room space. The food was catered by food services at the college which did not allow alcohol to be served.

A poster session/mixer was held the opening night (Wednesday). It was well attended and participation was so high that they had to change the poster-set up half way through the night to give everyone a chance to participate. Enough food was provided such that you could make a dinner out of the food and not have to leave the event. Numerous undergraduate and graduate students participated. At least 3 members of the New Haven section participated in the poster session.

Plenary speaker Dr. Ester Takeuchi spoke about battery science, the connection between electrochemistry and materials science, and the role of batteries in the full utilization of renewable energy sources on Thursday. Dr. Takeuchi is affiliated with Stony Brook University and Brookhaven National Laboratory.

Symposiums were held in a dedicated building and took up 2 floors of the building. Vendor space was set up outside the classrooms where the different talks were taking place giving them high visibility . I primarily went to the Chemical Education seminars and the Green chemistry/Green Polymers seminars which were well attended. The lecture hall in this building was used for a workshop on Fulbright Scholarship in STEM Fields where several former Fulbright scholars talked about their experience in the program which allowed them to teach or do research in a foreign countries. The next Regional Meeting will be held in Binghamton, NY at Binghamton University in Oct. 5-8, 2016.

The 2015 New Haven Science Fair

David J. Smudin, Ph.D.

The 21st Annual New Haven Science Fair was held at Yale University Commons at Woolsey Hall, on May 11 to 13, 2015. A total of 235 projects exploring ideas in both the biological and physical sciences were entered in this year's fair. The entries were submitted by students in grades Pre K through grade 12 from schools in New Haven. Seventy mentors worked with the students as they developed their projects. One-hundred seventy judges from the region were involved in the evaluation of the projects.

The New Haven Section is proud to be a part of the event, and for the past several years has supported it both financially and professionally. In addition to providing monetary awards for *Excellence in a Chemistry Related Science Fair*

Project in the pre-K to 8, and 9 to 12 grade categories, the Section also provides judges for the event. Judges from the Section for this year's Science Fair were Dr. Yane-Shih Wang, Dr. Jerry Putterman, and Dr. David Smudin.

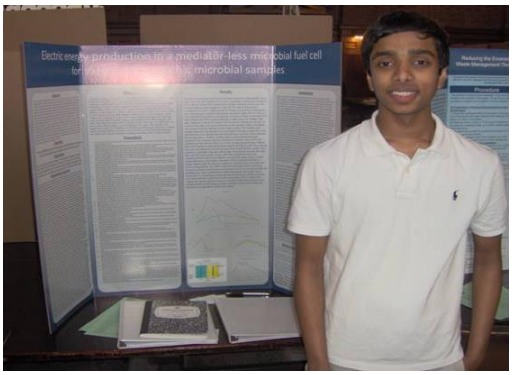
Each project of a chemical nature was judged with respect to the problem to be studied, the hypothesis, the application of the scientific method to test the hypothesis, the collection and interpretation of data, and the explanation and reporting of the results.

Because of the level of excellence of many of the projects submitted this year the Section's judges found it difficult to select only one best project from each of the grade categories presented earlier. For this reason they agreed to select two projects from each grade category, declare a tie, and award them equally.

One of the awards for *Excellence in a Chemistry Related Science Fair Project* from grades Pre-K through 8 was presented to Nicole Perez, Natasha Arvello, and Nashaly Idrovo from Laura Carroll-Koch's fifth grade class at the John S. Martinez School. The project, which was part of a unit of study, was entitled, *DNA in Fruit*. As part of the study the students learned what DNA is, where it is found, and why it is important. They used different color gummy bear candies to represent the four bases found in DNA. They learned about base pairing by attaching orange bear (guanine) to yellow bear (cytosine), and red bear (adenine) to green bear (thymine). The gummy bear base pairs were then fastened to strands of licorice with toothpicks to form the DNA ladder, which was carefully twisted into a double helix. Later the students developed a hypothesis about DNA in fruit and tested their hypothesis by analyzing many different fruits for DNA. The judges agreed this was a complex concept to be understood by 5th graders. The students did an excellent job presenting their project and it was evident from talking to them that they had a basic understanding of the concept. They will certainly expand their knowledge of this subject as their education continues.

Nicole Perez, Natasha Arvello, and Nashaly Idrovo display their project entitled DNA in Fruit at the 2015 New Haven Science Fair.

The other award for *Excellence in a Chemistry Related Science Fair Project* from grades Pre-K through 8 was presented to Sumanth Kondapalli, an 8th grader at Engineering, Science, University Magnet School, for his project entitled, *Electric Energy Production in a Mediator-Less Microbial Fuel Cell for Varying Electrogenic Microbial Samples*. Sumanth was concerned about the need for more sources of electricity to serve the billions of people who inhabit the earth. This concern led him to study microbial fuel cells which utilize bacteria to generate electricity. He envisioned that under the right conditions and with the proper selection of bacteria, municipal sewage treatment plants might be potential sources of electricity. For his science fair project Sumanth prepared a microbial fuel cell in which he tested common strains of microorganisms such as E. Coli and Saccharomyces Cerevisiae to determine if adding them to naturally found bacteria would increase the electrical output of the microbial fuel cell. Under certain conditions Sumanth found that his hypothesis was correct. A great amount of time was spent by Sumanth on his project which was excellently presented at the Science Fair.

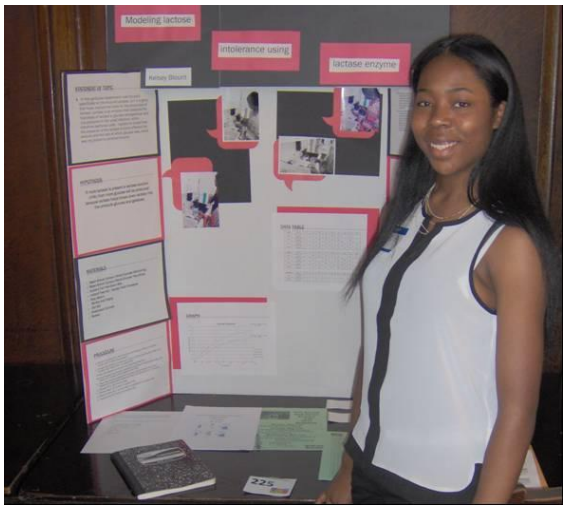


Sumanth Kondapalli discusses his project entitled, Electric Energy Production in a Mediator-Less Microbial Fuel Cell for Varying Electrogenic Microbial Samples.

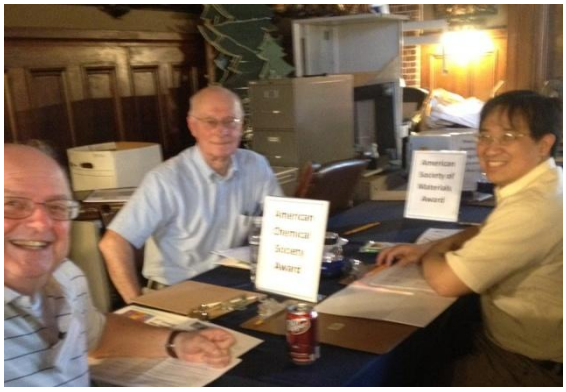
One of the awards for *Excellence in a Chemistry Related Science Fair Project* from grades 9 through 12 was presented to Maya Geradi, a 9th grade student in Julia Rodi's class at Wilbur Cross High School. The title of Maya's project was, *Exploring Strategies for Improved Calcium and Phosphate Compatibilities in Parenteral Nutrition*. Maya selected the topic of parental nutrition, which is provided to infants and adults with certain medical conditions when oral feeding is not possible, as her science fair problem. She chose to study the effect of pHs over the range of 5 to 9, and the additions of glutamate and aspartate compounds, and ascorbic acid with regard to preventing the unwanted crystallization and precipitation of calcium and phosphate compounds, which are important components of parenteral solutions. Maya observed that lower pH's improved the compatibilities of solution components and prevented crystallization. Aspartate and glutamate additions were also shown to prevent crystallization. The effect of ascorbic acid was unclear. The judges agreed that the problem of maintaining the solubilities and compatibilities of the several components of parenteral solutions is a many faceted one, but Maya chose a specific segment to explore and she did a good job with her selection. For this reason, and for the analysis and presentation of the data, she was selected to receive the award.

Maya Geradi was selected by the Section's judges for an award in the 9th through 12th grade category at the New Haven Science Fair for her project entitled, Exploring Strategies for Improved Calcium and Phosphate Compatibilities in Parenteral Nutrition.

Kelsey Blount, a senior in Ms. Arnini's class at the Cooperative Arts and Humanities Magnet School received the second award for *Excellence in a Chemistry Related Science Fair Project* from grades 9 through 12. The title of Kelsey's project was, *Glucose Production Based on Lactase*. Kelsey chose to explore the connection between lactase enzyme and the medical condition known as lactose intolerance. After gathering background information on the subject, Kelsey devised an experiment to test her hypothesis that increasing the concentration of lactase (Lactaid) in a lactose solution (Milk) would result in more glucose being produced. Her experimental design exhibited all the elements of a good scientific experiment. From her analysis of the data collected Kelsey concluded that her hypothesis was correct.



Kelsey Blount's project entitled, Glucose Production Based on lactase, was selected to receive an award for Excellence in a Chemistry Related Science Fair Project from grades 9 through 12 at the 2015 New Haven Science Fair.



New Haven Section judges (L to R) Jerry Puttermen, David Smudin, and Yane-Shih Wang take a break to discuss their selections for the Section's Awards at the 2015 New Haven Science Fair.

Section members interested in mentoring New Haven students who will be participating in the 2016 Science fair should contact Soen Tien Wun, NHPS Science Fair Mentor Program Director by phone at (203) 491-6487, or by e-mail at nhsciencefair@gnhcc.com.

This Year in Pictures

Max Reeve our master of ceremonies for New Haven Section Awards

50+ year membership awards

50+ year membership awards

National Chemistry Week Poster Awards

Honoring Kent Marshall for his involvement in the Chemistry Olympiad

Earth Day Posters Award Winners

Olivier Nicaise awarding Chemistry Olympiad recognition to Olympiad participants