

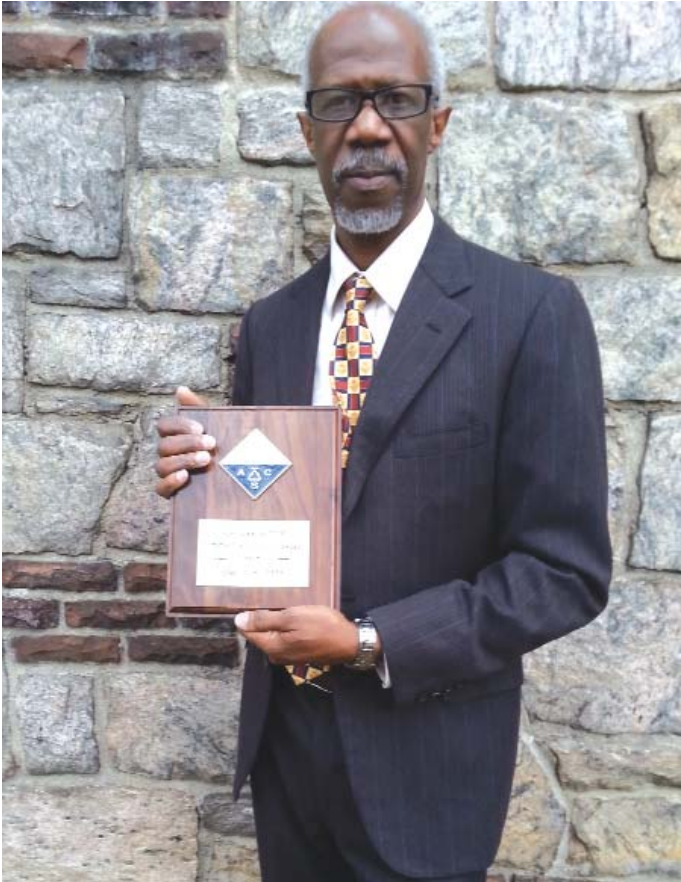
THE Indicator

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Dr. Marc A. Walters New York Section Outstanding Service Awardee



See article on page 2.

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New York Section Outstanding Service Awardee

DR. MARC A. WALTERS

Professor Marc A. Walters of New York University receives the 2013 Outstanding Service Award of the New York Section

Professor Marc A. Walters of New York University was presented with the 2013 Outstanding Service Award at the New York Section's annual conference held on January 18, 2014 at the College of Mount Saint Vincent. This award, created in 1976 and presented annually, recognizes members for their generous and outstanding service to the New York Section, involving inspiration, time and hard work. For Professor Walters, this award is richly deserved.

In 2005, Marc served as Director at Large. In 2007 he served as chair-elect and in 2008 as Chair of the New York section. With his mild manner and organized leadership style, the New York Section sailed through the year with many accomplishments. In 2008 Marc led the Section to a very successful year. The wide variety of traditional major events of the New York Section were maintained and often improved. This year also saw the New York Section host two additional events that drew national attention. The first was the Middle Atlantic Regional Meeting (MARM), that was held from May 17 to May 21 at Queensborough Community College and drew over 900 attendees from all over the country. Next, the New York Section was the recipient of a National Chemical Landmark honoring, at special ceremony, the Brooklyn Laboratories of Pfizer Inc. where deep-tank fermentation was developed to produce penicillin in world war II. Both of these significant events were major successes. From 2007 to 2011 Marc served as an Alternate Councilor to National ACS Meetings.

Another activity that Marc supported while Section Chair was the Government Affairs Committee. The purpose of this group was to provide information to the local section on policy matters and to promote participation and action by local section members. This is especially daunting task for the New York Section given the intensity of activity among its 17 congressional districts. As Section Chair, Marc placed significant emphasis on this activity, including a trip to Washington D.C. to advocate for science among NY senators and assemblypersons. More recently, he has assumed the chairmanship of the GAC and continues to offer enthusiasm and leadership to this important activity.

A legendary mentor, Marc has opened the door of opportunity for inner city students by exposing them to modern research through the ACS Project SEED program. He mentored Paola Severino who is now studying Chemistry at Yale University and Kimberly Perez who is now studying Chemical Engineering at Princeton University. Both won gold medals at the Regional Intel International Science and Engineering Fair. With his help, SEED students are achieving great successes.

Over many years, Marc has been active in the Inorganic and Nanoscience topical discussion groups, both as a leader and as a regular participant and supporter of the many activities these groups have hosted. During the 5 years following his chairmanship, Marc served on the William H. Nichols Medal Jury and the Board of the Directors of the Section.

Professor Walters is a graduate of City College, having earned the B.S. degree in 1979. He completed doctoral studies with Professor T. G. Spiro at Princeton University in 1981, then was a postdoctoral fellow with Dr. W. H. Orme-Johnson until 1985. He has been on the faculty at NYU since that time, where he currently studies the assembly of micelles for catalysis and biomedical applications, the development of spectroscopic methods for their characterization, and the design of nanoparticulate multifunctional contrast agents for radiological diagnostics.

The ACS New York Section truly appreciates Professor Marc Walter's continued dedication to the New York Section, extends a sincere thank you, and looks forward to working with him for years to come.

Many congratulations Marc!

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May Calendar

NEW YORK SECTION

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Westchester Chemical Society
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Thursday, May 1, 2014

Chemical Marketing & Economics Group
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Friday, May 2, 2014

NY Board
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Saturday, May 3, 2014

62nd Undergraduate Research Symposium
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Tuesday, May 20, 2014

Biochemical Topical Group
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NORTH JERSEY SECTION

Monday, May 12, 2014

Careers in Transition Group
See page 6.

Wednesday, May 14, 2014

Laboratory Robotics Interest Group
See page 7.

Wednesday, May 21, 2014

NMR Topical Group
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Thursday, May 22, 2014

Chromatography Topical Group
See page 7.

Tuesday, May 20, 2014

North Jersey 50 & 60 Year Member Awards
See page 6.

**The Indicator is posted to the web
on the 15th of the previous month
at www.TheIndicator.org**

**Deadline for items to be included
in the June 2014 issue of
The Indicator is
April 20, 2014**



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THIS MONTH IN CHEMICAL HISTORY

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

My wife Marie volunteers at the Friends' Bookstore at our local library, and occasionally comes across books she thinks might be of interest to me. Recently she bought a most interesting volume: "Biographical Memoirs of Fellows of the Royal Society 1955 Volume I" published by the Royal Society. It was the start of a new series following "Obituary Notices of Fellows of the Royal Society" Volumes 1 – 9 covering the years 1932 – 1954. My volume, judging from end-paper stamps and annotations, was de-accessioned from the library of the Carnegie Institution of Washington's Mount Wilson Observatory and it was acquired in 1957 for 30 shillings.

You probably all know that to be named a Fellow of the Royal Society and dubbed an F.R.S. is one of the highest honors a British scientist can attain. This volume of Biographical Memoirs discusses the careers of 19 Fellows and Honorary Fellows and includes such distinguished scientists and mathematicians as Albert Einstein, Enrico Fermi, and Alan Turing, with a photograph accompanying each memoir. In this column I am going to discuss the career of one of the biographees, John Lennard-Jones. I have a personal recollection of him. When I was an undergraduate I attended half a dozen lectures by Lennard-Jones on theoretical chemistry. Since last year's Nobel Prize in chemistry was awarded for achievements in theoretical and computational chemistry a look at the career of a pioneer in the field seems timely.

The biography of John Edward Lennard-Jones (1894 – 1954) was written by Nevill Mott, Nobel Laureate in physics in 1977 for his work on electronic structures of magnetic materials. Lennard-Jones was born in Lancashire, England, studied mathematics at Manchester University, earning a bachelor's and master's degrees. After World War I broke out he joined the Royal Flying Corps (predecessor of the R.A.F.) became a pilot and served in France. He returned to Manchester University in 1919 and earned his doctorate. He moved as a post-doctoral student to Cambridge University and earned a second doctorate while working on forces between atoms and molecules, deducing an empirical expression for the potential energy of two molecules that is still known as the Lennard-Jones potential equation. He also used "his" equation to calculate lattice energies of crystals.

He moved to Bristol in 1925 as first Reader and then Professor of Theoretical Physics deriving expressions for the van der Waals' constants for real gases, and spent a year at Goettingen with Pauli and Heisenberg learning and applying the new quantum mechanics. In the late 20s and 30s he began work on the method of molecular orbitals (M.O.) and explained the paramagnetism of oxygen molecules. He described the first self-consistent field (SCF) equations in a paper in 1931. He built up the theoretical physics department at Bristol, obtaining funding from individuals and foundations, and brought Hertzberg and Delbrueck from Germany to Bristol. He moved to Cambridge as Professor of Theoretical Chemistry (we can finally refer to him as a chemist!) in 1932 – perhaps the first Chair of Theoretical Chemistry anywhere. With students that included Coulson and Pople he continued work on M.O. theory and designed a small mechanical differential analyzer (a precursor to computers) to help in calculations. He also was a founder of the Cambridge Mathematical Laboratory that became important in World War II. During the war he worked on ballistics and was appointed Director General of Scientific Research (Defence) from 1942-45. He was knighted for his distinguished service in 1946 and returned to Cambridge.

He continued work in theoretical chemistry with such landmarks as justifying the use of diatomic orbitals only for valence electrons, and defining M.O.s as eigenfunctions of the SCF Hamiltonian. He was awarded the Davy Medal of the Royal Society in 1953. In the same year he was invited to become the Principal (U.S. equivalent is President) of a relatively new university in North Staffordshire now known as Keele University. He was attracted by the experimental nature of the new institution, and undertook his new duties with vigor and initiative – but his time at Keele was tragically short. After less than a year he died suddenly on November 1, 1954. Since I earned my bachelor's degree in 1953, the year Lennard-Jones moved to Keele, my class must have been among the very last to which he lectured on the subject he helped to create, theoretical chemistry.

North Jersey Meetings

<http://www.njacs.org>

NORTH JERSEY 2014 AWARDS AND RECOGNITION DINNER

Congratulations are in order to the members of the North Jersey Section who have reached 50 and 60 years of service!

Date: Tuesday, May 20, 2014

Times: Social 4:30 PM
Dinner and Presentation of
Certificates and Awards 5:30 PM

Place: Fairleigh Dickinson University
College at Florham
Lenfell Hall, the Mansion
Madison, NJ

Cost: \$35.00

Directions: can be found at
<http://view.fdu.edu/default.aspx?id=238>

Reservations: Please make your reservation at our website, www.njacs.org prior to **Thursday, May 8, 2014**

Questions: Call (973) 822-2575 or e-mail chemphun@optonline.com

Here are the lists of 50 and 60 year members:

50 Year Members

Mr. Javher Advani
Dr. Zaven Stephen Ariyan
Mr. John Bardzik, Jr.
Dr. Wolfgang Benz
Dr. Jeffrey Howard Berg
Dr. John C. Bonacci
Dr. Chandos Fountain Caldwell
Dr. Bertram Ira Cohen
Mr. Harold B. Conant
Dr. Jeremy George Dain
Dr. Ronald Nicholas De Martino
Dr. Robert S. DeSimone
Ms. Susan R. Fahrenholtz
Dr. Helmuth Hans Fuchs
Dr. Nicholas E. Geacintov
Ms. Margaret Jevnik Gentles
Dr. Martin L. Gorbaty
Mr. Paul D. Griffin
Mr. Arleigh Hartkopf
Mr. Carmine P. Iovine
Mr. Kent Kaiser
Dr. Mark Allen Kuck
Mrs. Valerie J. Kuck
Dr. Frank T. Lang
Dr. Michael Anthony Lea
Mr. Larry A. Liebowitz
Mr. Frederick Robert Mahn
Dr. Charles H. Manley
Ms. Maria Jane Manniello
Dr. David Lee Miller
Dr. John Joseph Murray
Dr. Raymond M. Palmere
Dr. Mollie Neubauer Pflumm
Dr. Asim Bikash Ray
Dr. Thomas F. Redmond
Dr. Louis John Rivela

Dr. Salvatore J. Romano
Mr. Leonard Joseph Schuman
Miss Margaret M. Shreehan
Mr. Dean Leroy Smith
Dr. Charles S. Sokol
Mr. Richard Frank Strusz
Mr. William H. Suits
Dr. William Vroom Taggart
Dr. Alan Wayne Tamarelli
Dr. James W. Thompson
Mr. Gerald Gennaro Vernice
Dr. John P. Walsh
Dr. Stephen Michael Wolpert
Dr. Lewis Brewster Young

60 Year Members

Dr. Byron H. Arison
Dr. David Bosniack
Mr. Harry Aaron Cantor
Mr. Charles Albert Carroll
Dr. Edwin Chandross
Dr. Leon Farber
Dr. Gerald Feig
Dr. Harold Gainer
Dr. Daniel H. Gold
Dr. Harvie Bruce Klaus
Dr. Paul Allan Lobo
Mr. Antony Lofredo
Mr. Francis B. McAndrew
Mr. Richard Vincent Petretti
Mr. Howard Leonard Rachbach
Mr. James Andrew Rogers, Jr.
Dr. Louis Houghton Sharpe
Dr. George Strauss
Dr. Lauri Vaska
Dr. Harvey A. Yablonsky

CAREERS IN TRANSITION MEETINGS

Job Hunting??

Resume & LinkedIn writing and key word search rules are changing. To be found, come and utilize our latest insights. Our ACS trained Career Consultants offer assistance at Students2Science to help members with their job search on the second Monday of each month. Topics at this free workshop are:

- Techniques to enhance resume effectiveness
- Interview practice along with responding to difficult questions
- Networking to find hidden jobs
- Planning a more effective job search

Date: Monday, May 12, 2014

Times: Meeting 5:30 - 9:00 PM
Pizza snack and soda 6:30 PM

Place: Students 2 Science, Inc.
66 Deforest Avenue
East Hanover, NJ

Cost: \$5.00 for pizza and soda

Reservations: at www.njacs.org/careers.html

A job board and networking assistance is offered at most topical group meetings. Appointments with Bill can be arranged for personal assistance at (908) 875-9069 or billsuits@earthlink.net.

See www.njacs.org under the Career tab for Jobs hidden from sight and relevant blogs.



The New Jersey Pharmaceutical Quality Control Association (NJPQCA) invites you to attend our Luncheon (11:30 AM to 2:00 PM) Monthly Meetings for 2013-2014; the following dates have been set for the upcoming year. Please mark your calendars!

January through May 2014	Our QA Certification Training Course (evening weekly sessions)	Registration will begin in the Fall of 2013
March 18, 2014	Monograph Harmonization: Throwing Down the Gauntlet	Speaker: Mark Wiggins
April 8, 2014	Rapid Micro Testing vs. Traditional Micro Testing (evening discussion panel)	Speakers: Dr. Daniel Prince, Dr. Scott Sutton, Dr. Michael Miller
May 21, 2014	FDA Conference More details to follow	Speakers: details to follow

Future updates on meeting information can also be found on the website (topics and speakers):
www.NJPQCA.org

MID-ATLANTIC CHAPTER OF THE LABORATORY ROBOTICS INTEREST GROUP

20th Annual Technology Showcase

Keynote Speakers: Janine K. Nunes
Princeton University
“Droplet Microfluidics”
and
Gerard D. Caprio
NJ Police
Mitochondrial DNA Unit

After the keynote addresses there will be two meeting tracks:

Track 1

Shannon Chilewski (BMS) draft title:
“microfluidic ultra sensitive emerging technology for protein determinations”

Constantin Radu (HTS-Core Facility I
Memorial Sloan-Kettering Cancer Center)

Joanna Everitt (Merck): “Cetus Automated
Dissolution System”, Two Square Science)

Track 2

Khanh Ha (BMS): “Semi-Automated
Sample Prep Tool to Reduce Sample
Extraction Time”, Two Square Science &
IKA

Bernhard Schneider (RPD): “Automated
workflows and platforms for storage stability
and solid state screening”, RPD

David Yamane (Freeslate)

Date: Wednesday, May 14, 2014

Times: Attendee check-in begins at
3:30 PM
Exhibition times - 3:30 - 6:00 PM
Free buffet style food will be
served from 4:00 - 6:00 PM while
vendor booths are open
Vendor breakdown starts at 6:00
Presentations begin at 6:00 PM
Presentations end at 8:00 PM
Coffee will served from
8:00 - 8:30 PM

Place: Holiday Inn Somerset
195 Davidson Avenue
Somerset, NJ 08873

Cost: Admission is free but pre-registra-
tion is requested.

Please use the chapter web site:
[http://my.lrig.org/LRIGChapter
MidAtlantic/home/](http://my.lrig.org/LRIGChapterMidAtlantic/home/)

Click on the link for the LRIG Mid-Atlantic
20th Annual Technology Showcase

NMR TOPICAL GROUP

Sponsored by

Agilent Corp/Technology Overview

Speaker: Bill Marathias PhD
NMR Applications Scientist
Agilent Technologies, Inc.
Boston MA

pNMR, Metabolomics, and Fermentation Process Analysis

Speaker: D. Christopher Roe
Corporate Center for Analytical
Sciences
DuPont Experimental Station
Willmington, DE

Fermentation processes constitute a significant aspect of DuPont’s drive to sustainability and the production of renewably sourced materials. Fermentation process analysis typically involves monitoring selected metabolites and products, and although trends may be discerned, it is hard to know how to relate these observations to overall process performance. In an effort to accelerate fermentation process development, multivariate methods are being applied to combined fermentation and analytical data sets in order to provide an overview of the fermentation process. The goal is to identify differentially expressed metabolites that contribute significantly to the differences between fermentations (e.g., growth variability, high vs. low titer, or one strain vs. another). This information can be assessed for biological significance, and metabolic engineering can be considered for the identified metabolic pathways.

The merits of NMR for metabolomic analysis will be described along with data “pre-processing” methods prior to multivariate analysis. A synopsis of multivariate methods will be given and examples of fermentation time course studies will be presented.

Date: Wednesday, May 21, 2014

Times: Dinner 5:00 PM
(sponsored by Agilent)
Bill Marthias talk - 7:00 PM
D. Christopher Roe talk - 7:15 PM
Place: CABM at Rutgers University
Room 010
679 Hoes Lane West
Piscataway, NJ

Directions: <http://www.mapquest.com>
and enter depicted address.

Register online at
<http://www.njacs.org/nmr.html>
or via e-mail to gvts@cabm.rutgers.edu

NORTH JERSEY CHROMATOGRAPHY TOPICAL GROUP

Symposium, Exhibit and More: “Advance in Modern Chromatography”

“Dealing with Heating and Pressure Effects on Chromatographic Performance When Scaling Between VHPLC and HPLC”

Dr. David Lloyd

Bristol-Myers Squibb

“Alternate Analytical Development Strategies for Early Clinical Stability Studies”

Dr. Fenghe Qiu

Boehringer Ingelheim

“LC-UHPLC Hybrid 2D Platform for LC/MS Analysis of Biological Samples: A New Paradigm”

Dr. Eduard Rogatsky

Albert Einstein College of Medicine

“A Two-Dimensional Approach to DNA Separation”

Prof. Linda McGown

Rensselaer Polytechnic Institute

“How Innovations in Chromatography and Separation Science Improve Pharmaceutical Discovery and Development”

Dr. Christopher Welch

Merck

Date: Thursday, May 22, 2014

Times: 9:00 AM - 4:00 PM

Place: Somerset-Bridgewater Hotel
110 Davidson Avenue
Somerset, NJ

Cost: Continental Breakfast, Lunch,
Seminars, Posters, and Vendor
Show
\$25 Professionals (\$30 on-site)
\$20 Full-time students/Unemployed

Registration: www.njcg.org



MASS SPECTROMETRY DISCUSSION GROUP

Celebrates Its 25th Anniversary: 1989 - Present

With excitement, the NJ MSDG celebrates its 25th anniversary this year! We are planning a celebration dinner this summer with high hopes of gathering the early founders together for a casual night of reunion and reminiscing.

I had the great pleasure recently to interview Dr. Birendra (Ben) N. Pramanik (ret.) and

learn about the genesis of this group and it is well worth a “pause” to recognize our start. It was clear from my conversation with Ben that NJMSDG started from a vibrant spirit for science and fellowship. Ben told me that for several years prior to 1989, while he was working at Schering–Plough (now Merck) in Kennilworth NJ, Schering-Plough invited “luminaries” to visit their site for scientific presentations. They generously funded travel, honoraria, administrative assistance, and dinners at the Schering-Plough cafeteria. Ben said “We were able to invite highly reputed individuals in the field. Speakers included Vernon Reinhold (Harvard), Donald Hunt (Univ. of Virginia), Michael Gross (U. Nebraska, now Wash U.), Richard Caprioli, Catherine Fenselau, Klaus Biemann, R.G. Cooks, Fred McLaferty, Brian Chait, Ale Burlingame, and others. Speakers also included professors from Europe and other countries (Michael Karas for example). I was very grateful to have support from Schering-Plough.” Emil Fu, who then worked for Sandoz, now Novartis, similarly hosted such meetings. Ben said he worked closely with Elaine Fukuda, then of Roche, Nutley NJ, and Emil Fu to gather the growing community of N.J. mass spectrometrists for these evening dinner-talks. These three committed individuals were the first officers of the 1989 NJMSDG, when it officially became part of the ACS.

As with any group that grows, it took the work and contributions of many, and Ben is still very quick to recognize those companies and individuals who supplied tremendous support. Ben said, “our friends and colleagues at HP (now Agilent), JEOL, Finnigan MAT (now Thermo), Kratos (now Shimadzu), BMS, we all worked together. Emil and I spent lots of time to make this group successful. We requested major corporations (Schering-Plough, Sandoz, HP, JEOL, BMS, Roche, Finnigan, Kratos & others) to contribute towards enhancing the quality of programs for the group. We had many meetings and were always welcomed at the HP site in Paramus, NJ. Similar assistance we received from a number of corporations HP, JEOL and Finnigan MAT in particular. My administrative assistant at Schering used to maintain the list of the attendees, and also sent letters announcing the meetings.”

Over the past 25 years, the meeting has grown. Nick Molinaro of Thermo recalls that “the early meetings had about 40-50 atten-

dees". Through the years the NJMSDG has gratefully enjoyed the financial support of the above mentioned with many others added to the list! It has been an exceptionally exciting quarter-century as mass spectrometry has exploded with new tools, techniques, and applications, and the NJMSDG looks forward to what lies ahead. Lastly, but certainly not least, these 25 years of success could not have happened without the contribution of many, many volunteers who have served over the years, and whose names are listed on our website as follows: <http://www.njacs.org/topical-groups/mass-spectrometry>. Please look for the upcoming announcement of our 25th Anniversary Celebration Meeting.

Kathleen Anderson, NJMSDG Director of Communications, 2008 to present



Dr. Ben Pramanik, PhD

(Photo courtesy of Jonathan Ho)

NATIONAL YCC WEBINAR

Scent and Fragrance Chemistry

"Roses are red and violets are blue but why do we perceive scents the way that we do?"

On February 11, 2014 at Rutgers University, Piscataway, NJ, and FDU, Madison, NJ, YCC members learned about chemistry of scents and fragrances from three industry experts from Procter and Gamble. The webinar was very informative and everyone enjoyed the thoughtful questions during the Q&A session.



Trying out our scent and fragrance skills at FDU!



Rutger's group after the webinar.

(Photos courtesy of Ashley Tennyck)

New York Meetings

www.newyorkacs.org

NEW YORK SECTION BOARD MEETING DATES FOR 2014

The dates for the Board Meetings of the ACS New York Section for 2014 were chosen and approved at the September 2013 Board Meeting. The meetings are open meetings – all are welcome. If non board members would like to attend the meeting, please let the New York Section office know by emailing Mrs. Marilyn Jespersen at njesper1@optonline.net or calling the office at (516) 883-7510.

The 2014 Board Meetings will be held on the following Fridays at 6:00 PM at the College of Mount Saint Vincent, Benedicts (Founder's Hall), Riverdale, NY. Dr. Pamela K. Kerrigan will chair the meetings.

Friday, May 2

Friday, June 13

Friday September 19

Friday November 21

More information will be posted in future issues of the Indicator and on the New York website at <http://www.NewYorkACS.org>.



WESTCHESTER CHEMICAL SOCIETY

Distinguished Scientist Award and College Student Achievement Awards Dinner Meeting: Excimer Laser Surgery — The Foundation for Laser Refractive Surgery and Future Applications

Speaker: James J. Wynne, PhD
Program Manager
Local Education Outreach (LEO)
IBM T. J. Watson Research
Center, Yorktown Heights, NY

In 1981, experimenting on leftover Thanksgiving turkey, my IBM colleagues and I discovered excimer laser surgery, laying the foundation for the laser refractive surgical procedures, LASIK and PRK, procedures which more than 25 million people have undergone to correct myopia, astigmatism, and hyperopia. For this discovery, in 2013 we were awarded both the National Medal of Technology and Innovation and the National Academy of Engineering's Russ Prize.

In 1983, while irradiating the skin of live guinea pigs, my colleagues and I discovered that far ultraviolet radiation from an argon fluoride (ArF) excimer laser failed to remove (ablate) tissue after bleeding commenced. The explanation is that the ArF laser radiation is strongly absorbed by an aqueous salt solution, as found in blood, through the process of electron photodetachment from hydrated chloride ions. Such an electronic excitation does not produce heat. We now apply this knowledge to propose a novel technique to debride necrotic tissue associated with burns, decubitus, venous stasis, and neuropathic ulcers, without causing collateral damage to adjacent and underlying viable tissue. We envision a "smart scalpel," enabled by the intrinsic advantage afforded by non-thermal absorption of ArF laser light by aqueous chloride ions.

Dr. James Wynne obtained his AB, MA and PhD, all in Physics, from Harvard University. His thesis work, on nonlinear optics, was done under the supervision of Professor Nicolaas Bloembergen. He started work on nonlinear spectroscopy using lasers while still at Harvard and continued this type of work after joining IBM. His research has covered different aspects of using lasers to explore novel phenomena (e.g., resonantly-enhanced ionization), to analyze matter (e.g., atomic spectroscopy), and to process materials (e.g., laser etching of biological specimens). More specifically, he has investigated nonlinear optics of semiconductors and insulators, coherent infrared and vacuum ultraviolet generation in atomic vapors, multiphoton ionization spectroscopy of atomic vapors, nonlinear optical measurements of atomic oscillator strengths, applications of multichannel quantum defect theory, novel laser systems, excimer laser etching of biological tissue, laser-induced-fluorescence detection of arterial lesions, and cluster science.

Since 1990, he has been Program Manager, Local Education Outreach – <http://www.watson.ibm.com/leo>, at the IBM Thomas J. Watson Research Laboratory. In this capacity, he marshals the resources of the IBM Research Center to enhance science and mathematics education in our local schools. He serves as a leader, originator, communicator, catalyst, matchmaker, organizer, and facilitator, opening up pathways of communication between the employees of his laboratory and the educational community. Furthermore, he keeps traffic flowing in both directions along these pathways. To further

his objective of helping all young Americans to become technically literate through improved science and mathematics education, he has become involved in national education reform activities through his membership and activities on the Education Committee and Forum on Education of the American Physical Society, the Education Council of the Optical Society of America, the Mathematics Sciences Education Board of the National Research Council, the Advisory Board to the US Physics Team, the American Association of Physics Teachers and the National Council of Teachers of Mathematics.

Since 2004, he has served as global coordinator for IBM's participation in Engineers Week – <http://www.eweek.org>, an international promotion of the engineering professions. IBM's primary focus for Engineers Week is to interact with pre-college school students to introduce them to the opportunities of careers in engineering, technology and science. For the 2012 EWeek campaign, we sent more than 5400 technical professionals into classrooms around the world, where they engaged over 200,000 students. These numbers were exceptional, although they were exceeded during the 2008 EWeek campaign, when IBM served as Corporate co-chair for EWeek, and more than 6500 IBM technical professionals engaged over 250,000 students.

Dr. Wynne has won numerous awards including the Eastern New York Intellectual Property Law Association Award 2001 Inventor of the Year, the Optical Society of America 2004 R.W. Wood Prize, the New York Intellectual Property Law Association 2009 Inventor of the Year, the 2010 Rank Prize for Opto-Electronics, the 2011 National Medal of Technology and Innovation (for the pioneering discovery of excimer laser ablative photodecomposition of human and ani-

mal tissue, laying the foundation for PRK and LASIK, laser refractive surgical techniques that have revolutionized vision enhancement), the National Academy of Engineering 2013 Fritz J. and Dolores H. Russ Prize (for the development of laser ablative photodecomposition, enabling LASIK and PRK eye surgery), as well as at least five internal IBM awards. In 2002 he was inducted into the National Inventors Hall of Fame. He has more than 75 publications and more than 15 patents (issued or applied for).

This year's Distinguished Scientist Award is being granted in memory of John H. Weisburger, Ph.D. (1921-2014). Dr. Weisburger was research professor of pathology in the Graduate School of Basic Medical Sciences at New York Medical College, in Valhalla, N.Y. His research focused on cancer, particularly carcinogenesis and chemoprevention. He was a long-time supporter of the Westchester Chemical Society and former (1995) Distinguished Scientist awardee. He passed away February 17, 2014.

Date: Thursday, May 1, 2014

Times: Social Hour - 5:00 PM
Lecture and Awards - 6:00 PM
Dinner - 7:00 PM

Place: Pace University
The Campus Center, Butcher Suite
861 Bedford Road – Entrance #2
Pleasantville, NY 10570

Cost: Students \$20
All Others \$30

RSVP Required – pwrc@earthlink.com

For more information, contact Paul Dillon:
E-Mail PaulWDillon2@hotmail.com
Phone (914) 393-6940

For Pace University information:
eweiser@pace.edu



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CHEMICAL MARKETING & ECONOMICS GROUP

Latin American Growth Outlook

Host: George Rodriguez
Director at Argeni
CM&E Chair

You are cordially invited to attend this important CM&E Luncheon to drive your business effectively. You can also join us for the Live Webcast or Webcast Recording.

Do not unsubscribe if this subject is not of your interest, just click on "I can't make it" and invitations to this event will stop.

- Get more information
- Register Now!
- I can't make it

We look forward to seeing you in future CM&E monthly luncheons.

Sincerely,
George Rodriguez, Chair, CM&E
Chemical Marketing & Economics Group -
ACS NY Section
contact@cmeacs.org

Date: Thursday, May 1, 2014

Times:

Place: Penn Club of NY

For Registration Info Contact: Karin Bartels
(908) 542-0251

Mark Your Calendars

Annual Biotech Update

Host: Dr. Paul Pospisil
Senior Client Partner
Korn/Ferry International

Date: Thursday, June 5, 2014

Times:

Place: Yale Club of NY



62ND ANNUAL UNDERGRADUATE RESEARCH SYMPOSIUM

Sponsored by the New York Chemistry Students' Association Student Member Committee—New York Section of the American Chemical Society

The symposium provides an excellent opportunity for undergraduate chemistry students in the NY metropolitan area to present the results of their research. The program includes a keynote address by Dr. Tina Iverson, Departments of Pharmacology and Biochemistry, Vanderbilt University, presentation of student papers, poster presentation, followed by a luncheon.

To register and for more information email nyacsurs2014@gmail.com or go to: <http://www.newyorkacs.org/meetings/urs/urs.php>

Date: Saturday, May 3, 2014

Place: St. John's University
Queens, NY

2014 Co-chair: Dr. Joseph Serafin

2014 Co-chair: Dr. Yolanda Small

2014 Co-chair: Dr. Paul Sideris

2014 Co-chair: Dr. Sharon Lall-Ramnarine



2013 Undergraduate Research Symposium.

(Photo courtesy of Yolanda Small)

BIOCHEMICAL TOPICAL GROUP — JOINT MEETING WITH THE NYAS BIOCHEMICAL PHARMACOLOGY DISCUSSION GROUP



Hot Technologies for Developing Next-Gen Biologics

Organizers: Robert Martone
Covance Biomarkers Center of Excellence

Heather Shih, PhD
Pfizer External Research Solutions

Jennifer Henry, PhD
The New York Academy of Sciences

Speakers: Tim Charlebois, PhD
Pfizer

David King, PhD
AnaptysBio Inc.

William M. Pardridge, MD
Brain Research Institute, UCLA

Steven J. Projan, PhD
MedImmune

Sachdev Siddhu, PhD
University of Toronto

E. Sally Ward, PhD
UT Southwestern

Patrick C. Wilson, PhD
The University of Chicago

K. Dane Wittrup, PhD
Massachusetts Institute of Technology

New technologies are pivotal in developing

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next-generation biologics. This symposium highlights novel technologies in the discovery of new biologics, elucidating in vivo mechanisms of therapeutic proteins, and manufacturing and delivery processes.

Date: Tuesday, May 20, 2014

Time: 8:30 AM – 5:00 PM (reception to follow)

Place: New York Academy of Sciences
7 World Trade Center
250 Greenwich Street – 40th Floor
New York, NY

Cost: This event has reduced-rate registration for ACS and NYAS members, at \$30 or \$15 (for students and post-docs). Please select the appropriate non-member Registration Category and use the Priority Code ACS. Non-members may attend for a fee of \$85 (corporate), \$65 (non-profit or academic) or \$45 (students and post-docs).

For more information and to register for the event, go to:

www.nyas.org/Next-GenBiologics

To become a Member of the Academy, visit www.nyas.org/benefits

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CANDIDATES FOR THE NEW YORK SECTION 2014 ELECTIONS

At the January Section-wide Conference, the Nominating Committee presented the candidates for office for the 2014 elections. The biographies of the candidates are posted on the New York Section website at <http://www.NewYorkACS.org>.

The Board of Directors extends a sincere thank you to the following candidates for accepting the nomination to run for office, and sincerely encourages ACS New York Section members to vote for them.

Electronic ballots will be sent to the membership in mid-April and voting will be conducted according to ACS guidelines for confidentiality and security. Members requesting paper ballots will receive them **by May 1, 2014**. If a member does not receive voting materials by May 1, please contact the New York Section Office at (516) 883-7510 or njesper1@optonline.net.

The candidates are:

Chair Elect for 2015

Dr. Alison Hyslop (St. John's University)
Dr. Ruben Savizky (The Cooper Union)

Secretary 2015-2016

Dr. Joseph Serafin (St. John's University)

Directors-at-Large 2015

Dr. Daniel Amarante (College of Mount Saint Vincent)
Dr. Ping Furlan (U. S. Merchant Marine Academy)
Dr. Afredo Mellace (SUNY Nassau Community College)
Dr. Jun Shin (CUNY Queensborough Community College)
Dr. Justyna Widera (Adelphi University)

Councilor 2015-2017

Prof Emeritus Richard Cassetta (College of New Rochelle)
Dr. Ronald D'Amelia (Hofstra University)
Mrs. Jean Delfiner (NYC Board of Education)
Dr. Barbara Hillery (SUNY Old Westbury College)
Dr. Rolande Hodel (AIDSfreeAFRICA)
Dr. Hiroko Karan (CUNY Medgar Evers College)
Dr. Robert Nolan (International Environmental Research)
Dr. George Rodriguez (Argeni, LLC)

THANK YOU, NEW YORK SECTION MEMBERS!

Since the New York Section incorporated electronic balloting, the voting rate has increased greatly. This year we hope to do even better. Show your support and please vote.

Prior to the election, you will receive ONE email message asking if you want to receive a paper ballot this year. Please respond **ONLY IF YOU WANT A PAPER BALLOT**. Otherwise, you will receive an electronic ballot in mid-April with a **deadline of May 31**. Two voting reminders will be sent also for the ballot. The voting is confidential and secure, following ACS voting guidelines. Thank you, in advance, for voting in the 2014 New York Section elections.



THE NEW YORK SECTION 2014 NICHOLS FOUNDATION HIGH SCHOOL CHEMISTRY TEACHER AWARD

Dr. Mina Haghjoo Armani

Dr. Mina Armani received her BA in Biology and Chemistry from Jersey City State College. In 1994 she earned an MS in chemistry and in 1996 a PhD in biological chemistry - both from Rutgers University. Her research projects included: Inhibition and catalytic mechanism of Serine Proteases using NMR spectroscopy, and another on plasmid purification. She holds her teaching certification in both Chemistry and Biology.

Mina is presently teaching at Union City High School in Union City, New Jersey. Her teaching load has included AP Chemistry, Honors Chemistry, CP Chemistry and Organic Chemistry.

Prior to this, she was an adjunct instructor at Jersey City State College. She has presented at many scientific meetings. In 2013 she presented "The Preparation of Brittle Strip Films Containing Drug Nanoparticles and Their Incorporation into Tablet Form" at The New Jersey Institute of Technology.

She has a mantra which is "Learning never stops: there is always more to learn and better techniques to teach, and in order to be relevant in such a fast changing world we educators need to be able to modify our techniques to tap to all the possible ways to reach out to the vast spectrum of young

learning abilities.”

This mantra leads Mina to use effective techniques to capture the interest of her students. In a lesson on intermolecular forces, pairs of students determine the number of drops a penny can hold for each of 4 solvents: ethanol, water, pentane and acetone. When teaching acids and bases, Mina's students create their own pH indicator from red cabbage. For a lesson on solubility she developed a lab in which students compare the solubility of everyday chemicals such as caffeine, citric acid and Vitamin D in water and acetone.

Mina challenges and inspires students. For example, students are given laboratory assignments without written protocol in which they refine the protocol as they do the experiments. This year, students experimented making sodium and potassium soaps.

Mina's students participate in the Chemistry I and II New Jersey Competitions where they have placed 1st and 2nd in the county. She established the Society of Hispanic Professional Engineers chapter at Union City High School. The chapter conducts programs for parents and students to inform them of engineering opportunities. School members also attend engineering programs at Stevens institute at Rutgers. This pro-

gram has helped students to become interested in STEM fields.

She is also a member of the American Chemical Society Project Seed committee. She spends numerous hours of her own time to help place students under a mentorship of a scientist.

Mina keeps up to date with her own education to help her students. She has recently taken summer courses including pharmaceutical research and created a new module to be implemented in high school chemistry.

Nadia Makar, Science Supervisor at Union City High School, and a former Nichols Teacher Award winner, writes “Mina designs lessons that are interesting, intriguing and challenging... . She is a teacher, researcher, mentor, and role model for her students as well as her colleagues.”

One of Mina's students writes: “Dr. Armani is one of the kindest, humblest and most ethical individuals I have met...and the impact on students is unmistakable...she has a genuine concern for all students and is an irreplaceable and priceless asset to her school.”

Congratulations!

Written by Stephen Radice, Chair of the Nichols Foundation High School Chemistry Teacher Award committee.



At left, Dr. Mina Haghjoo Armani with the 2014 Nichols Foundation High School Chemistry Teacher Award, and at right the presentation to Dr. Armani by Stephen Radice, Chair of the Nichols Teacher Award Jury.

(Photos courtesy of Stephen Radice)

NEW YORK SECTION 2014 SECTIONWIDE CONFERENCE, COLLEGE OF MOUNT SAINT VINCENT

The annual Section-wide conference of the New York Section was held on January 18th at the College of Mount Saint Vincent in Riverdale, NY. Dr. Pamela K. Kerrigan, 2014 New York Section Chair, hosted the event. The conference began with a continental breakfast for all attendees. Dr. Kerrigan opened the event by welcoming the Project SEED students, the Officers and Committee Chairs, and all ACS member guests. The Section-wide conference included the presentation of awards for volunteerism and achievement, a keynote address by Dr. John C. Warner, research presentations by Project SEED students, breakout planning sessions for the year 2014, and a colleague get together luncheon.

At the award ceremony, Dr. Philip H. Mark received the ACS plaque, past chair pin, and gifts of appreciation for his excellent work as Chair of the New York Section in 2013. The 2013 Outstanding Service Award went to Dr. Marc A. Walters of New York University who chaired the New York Section in 2008 and now oversees the Government Affairs Committee. The Section presented the Nichols Foundation High School Chemistry Teacher Award for 2013 to Dr. Mina Haghjoo Armani of Union City High School, NJ. Mr. Stephen Radice introduced Dr. Armani and

enumerated her many accomplishments as an outstanding chemistry teacher in the New York Section. Dr. Paris Svoronos, 2014 Chair-elect of the New York Section, then presented the names of the candidates for the upcoming 2014 elections and introduced those candidates who were present.

Dr. John C. Warner, President and Chief Technology Officer for Warner Babcock Institute for Green Chemistry, Inc., presented the keynote address titled "Entropic Control in Materials Design as an Example of Green Chemistry." The audience was most attentive to Dr. Warner's informative and exciting presentation on green chemistry.

Project SEED students, accompanied by Project SEED coordinator, Nadia Makar, attended the conference and displayed the results of their research. Their posters were excellent and their appreciation of the support for Project SEED by the Section was evident. During the high school years, they have thoroughly enjoyed working with local chemists as they developed their research skills.

The last hour of the conference was devoted to a planning session for subsections, topical groups, and committees and it concluded with reports from the Chairs of each of the groups. The traditional luncheon with colleagues was enjoyed by many at the Riverdale Steahouse. It was another very enjoyable and educational conference with over 75 attendees.



Dr. Pamela Kerrigan, 2014 New York Section Chair, welcoming guests to the 2014 Sectionwide Conference.



Keynote Speaker Dr. John Warner of Warner Babcock Institute of Green Chemistry with Dr. Pamela Kerrigan.



Awards Presented for Volunteerism and Achievement – Left to right: Stephen Radice (Chair of Nichols Teacher Award Jury), Dr. Mina Armani (Nichols Foundation Chemistry High School Teacher Award); Dr. Philip Mark (Past Chair Recognition Award); Dr. Marc Walters (Outstanding Service Award); Dr. Pamela Kerrigan (2014 New York Section Chair)

Project SEED students, sponsored by the New York Section, visited the Sectionwide Conference and later lunched with attendees.



SEED students and guests – Attendees at the conference enjoyed learning about the Project SEED students' impressive research.

Groups gathered to exchange ideas about making The New York Section's year 2014 a very successful one.

(Photos courtesy of Marilyn Jespersen)



WESTCHESTER CHEMICAL SOCIETY

On March 19, 2014 Dr. Stephen Arnold, Thomas Potts Professor of Physics and University Professor of Physics and Chemistry and Director of the Micro-Particle Photo-Physics Laboratory at the New York University Polytechnic School of Engineering presented a fascinating talk dealing with opto-mechanics. By marrying micro-photonics with nano-optics, specifically using a whispering gallery mode resonator and a nano-plasmonic enhancing epitope, he and his coworkers are able to detect cancer marker protein molecules one at a time, pushing the label-free limit of detection to the unprecedented level of 10 zepto-grams (5 kDa) in solution (less than one-hundredth the mass of all known viruses, and lower than the mass of most existing cancer markers). Dr. Arnold discussed the physics and chemistry of this and related work done in his laboratory. He showed that light trapped in a spherical whispering gallery particle behaves quantum mechanically as an analog of the behavior of electrons in atoms (P-atoms vs. E-atoms). He also presented an interesting example (along with a short film) of a protein molecule actually orbiting a detector particle under the control of optical forces. Further information about this work is available on the MicroParticle PhotoPhysics Lab's web page (www.mp3l.org). Dr. Arnold's talk, given at

the Westchester Community College in Valhalla, N.Y., was followed by an interesting question and answer, and discussion, session. Several attendees, including the speaker, then enjoyed a dinner together at a nearby restaurant. The photo below is of Dr. Arnold and the WCS board of directors attending the meeting.



EMPLOYMENT AND PROFESSIONAL RELATIONS COMMITTEE OF THE NEW YORK SECTION

To Human Resources Departments in Industry and Academia

The Employment and Professional Relations Committee maintains a roster of candidates who are ACS members seeking a position in the New York metropolitan area. If you have job openings and would like qualified candidates to contact you, please send a brief job description and educational/experience background required to hessytaft@hotmail.com.

Candidates from our roster who meet the requirements you describe will be asked to contact you.



Stephen Arnold, Paul Dillon, Rolande Hodel, Peter Corfield and Jean Delfiner

(Photo courtesy of Paul Dillon)

Call for Nominations

WILLIAM H. NICHOLS MEDAL AWARD FOR 2015

The New York Section is accepting nominations for the William H. Nichols Medal Award for the year 2015. This distinguished award, established in 1902 by Dr. William H. Nichols, for the purpose of encouraging original research in chemistry, is the first award authorized by the American Chemical Society. It is presented annually in recognition of an outstanding contribution in the field of chemistry, and consists of a gold medal, a bronze replica and \$5000. The medals are presented at the William H. Nichols Meeting that consists of a Distinguished Symposium related to the medalist's field of expertise and a Medal Award Dinner.

Investigators who have published a significant and original contribution in any field of chemistry during the five calendar years preceding the presentation meeting are eligible for consideration by the Nichols Medal Jury. The New York Section encourages nominations from academia, government and industry.

Each nomination requires a completed nomination form, biographical and professional data, and seconding letters. Since the nomination process utilizes the New York Section website, please access the nomination form and instructions at <http://www.newyorkacs.org/meetings/Nominations/Nichols.php>

Nominations must be received by May 31, 2014. The Nichols Medal Award Jury will meet in June 2014 to select the Nichols Medalist for 2015.

Questions regarding the nomination procedure should be directed to the ACS, New York Section Office, at njesper1@optonline.net.



ACS NEW YORK SECTION'S OUTSTANDING SERVICE AWARD FOR 2014

Many members of the New York Section provide their time, leadership talent, and knowledge to the New York Section. The tradition of excellence of the New York Section is attributable directly to the cumulative effect of these dedicated individuals. Each year the New York Section presents

the Outstanding Service Award to a most deserving member of the section. The New York Section is now accepting nominations for this award.

A nomination letter with supporting data should be emailed to the 2014 OSA Committee Chair, Dr. David Sarno at dsarno@qcc.cuny.edu. Nominations will be accepted **until May 31, 2014**.

The nominations will be reviewed by a committee consisting of the previous five winners of the award. The Outstanding Service Award for 2014 will be presented at the New York Section's Section-wide Conference in January 2015.

For more information about the award along with a list of former award recipients, please visit the ACS New York Section's website at http://www.newyorkacs.org/awards_nyacs.php



2015 LEO HENDRIK BAEKELAND AWARD

The North Jersey Section of the American Chemical Society is soliciting nominations for the 2015 Leo Hendrik Baekeland Award. The Award consists of a gold medal and a \$5,000 honorarium. The Section presents the Award biannually to commemorate the technical and industrial achievements of Leo Hendrik Baekeland and to encourage younger chemists to emulate his example.

The Award is given in recognition of accomplishments in pure or applied chemistry to an American chemist as characterized by the initiative, creativeness, leadership, and perseverance of the individual (indicated by published or unpublished evidence) and who will be under the age of 40 as of January 1, 2015.

Nominations for the Award should include a letter describing the nominee's achievements, a brief biography, and a list of the nominee's more important publications. Successful nomination packets include two to three recommendation letters supporting the candidate.

Re-nominations are encouraged, provided the age requirement is still met.

Please submit materials by **December 31, 2014**, to:

Dr. Les McQuire
ACS North Jersey Section Awards Chair
17 Crown Drive,
Warren NJ 07059

Call for Volunteers

LIBERTY SCIENCE CENTER

FREE Community Evenings

Volunteers are needed to host a table or do a demo at this event. The dates selected are the prime dates for these events as they are near National Chemistry Week and Earth Day. If we have more volunteers, we can go more days.

Community Evenings are exclusive events hosted throughout the year for all students, teachers and families from NJ's 31 former Abbott Districts. Held from 5:30 PM until 9:00 PM, families are invited to explore the Science Center's themed exhibition galleries; experience the excitement of IMAX films* and RealD 3D shows*; and engage in special family programming, live demonstrations and hands-on activities – all at no cost.

Date: May 21, 2014

To Volunteer or if you have questions contact Miriam Gulotta mirjet2@yahoo.com or Jeannette Brown Jebrown@infionline.net.

National

The following message is being sent on behalf of Flint Lewis, Secretary and General Counsel of the American Chemical Society.

Dear Local Section Officers and Councilors,

There are a variety of email scams out there. One common approach is for an organization or business to be notified through an "out of the blue" email, from an organization with an impressive name but which is unknown to the recipient, that they have been selected for an award. The information provided about your achievements usually sounds impressive (e.g. "Award for Excellence") but is very generic. When the recipient explores this "good news", they may find that there is a charge for the award, that additional services are being offered for a charge, or that there is an attempt to access data, etc. This warning is not meant to cast doubt about the many legitimate awards which are bestowed upon ACS and its sections, but the organizations bestowing these legitimate awards will very likely be recognizable to the recipient. If you receive news of an award that falls in the suspect category, please contact the Office

of the ACS Secretary at secretary@acs.org. We will be happy to research the organization on your behalf.



ACS PRESIDENT'S CHALLENGE

Attention Council Members, Local Section and Division Officers,

Thank you for your continued efforts to help grow and enrich the American Chemical Society's membership. In 2013 you recruited a total of 1988 new members through the ACS President's Challenge. The local sections contributed 1306 new members and the divisions added 682. With your help, we can make 2014 an even more successful year.

The American Chemical Society's mission is: "To advance the broader chemistry enterprise and its practitioners for the benefit of Earth and its people." Members benefit from and also contribute to the richness of our offerings. We invite and welcome every chemical scientist in our local community as well as others from across the nation and around the world to join the ranks of the world's largest scientific organization.

In your recruiting, I want to encourage you to reach out to a variety of audiences, in particular chemists living abroad. ACS has developed Worldwide.ACS.org to make it easier to recruit international members. This website describes the benefits of ACS membership which are geared specifically to chemical professionals living outside of North America.

Students are also a great source of new members. ACS utilizes Undergrad.ACS.org as well as GradStudent.ACS.org to help recruit undergraduates, graduate students and postdocs.

We hope that by bringing in new international and student members, your sections and divisions will benefit from an increase in participation and contributions from these chemical professionals and students.

For additional details about the President's Challenge, visit www.acs.org/MAC. I also invite you to review pages 5-20 of the Local Sections Toolkit for ideas on member recruitment.

Thank you for all for your continued participation in this exciting program.

Sincerely,
Tom Barton, President
American Chemical Society

Grants Available

LOCAL SECTION SCIENCE CAFE MINI-GRANTS

Dear Local Section Officer,

The deadline to apply for a Local Section Science Café Mini-Grant is May 1st, 2014. Funds of up to \$400 are available to assist Local Sections in hosting a Science Café in their community.

Learn more about Science Cafés and apply online.

Please note - if your section was awarded this mini-grant in 2013 your section must submit a summary report if it wishes to be considered for this grant period.

If you have questions, please contact lsac@acs.org.

Others

TRI-STATE CHINESE AMERICAN CHEMICAL SOCIETY (CACs) ANNUAL SYMPOSIUM

Symposium Theme: Transforming Chemical Sciences into Better Living – Education, Innovation, and Entrepreneurship

Speakers: Senior R&D leaders from industry, distinguished educators from universities as well as influential entrepreneurs

Vendor show: A vendor exhibition will be held in parallel to podium presentations. Vendors are welcome to participate.

Career opportunities: Several companies will post job openings and collect resumes at the symposium. In addition, a career consultant from ACS will provide career advices on-site.

Date: Saturday, June 28, 2014

Time: 8:30AM – 4:00 PM.

Place: Busch Campus Center
Rutgers University
604 Bartholomew Road
Piscataway, NJ

Cost: Free and open to public.
Complimentary breakfast and lunch will be provided.

Registration: <http://tristatecacs.org> for

registration, additional information and updates

Contact: Lijuan Wang at
lijuan.wang1@verizon.net

Press Releases

Top U.S. Fellowship Program in History of Science Receives Record Number of Applications

Since 2011 the Beckman Center for the History of Chemistry at Chemical Heritage Foundation has led the nation in granting pre- and postdoctoral fellowships to scholars in the history of science.

The Beckman Center for the History of Chemistry at the Chemical Heritage Foundation (CHF) received a record number of fellowship applications for the 2014-2015 academic year. The Beckman Center has led the nation since 2011 in granting pre- and postdoctoral fellowships to scholars in the history of science, and the program continues to grow rapidly, with 89 applications this year, up 25% over last year.

In the 2014-2015 academic year CHF will provide roughly 20 fellowships: 10 to 12 short-term and 8 long-term fellows will receive grants totaling more than \$360,000.

CHF support of fellows began in the 1988–1989 academic year with just one fellow supported by a grant from the Sidney Edelstein Foundation. Seymour H. Mauskopf of Duke University received a grant to study the history of explosives and gunpowder. In the 25 years since that first fellowship the scholars program at CHF has become the largest of its kind in the United States: since 1988 over 200 scholars have received short- and long-term grants from CHF.

For more information please visit www.chemheritage.org.



ZOOK RUPTURE DISKS

a recognized leader in metal and graphite rupture disk solutions, is pleased to announce the launch of its new website, www.zook.cc. Product Literature, Installation Guides, Certifications, and Technical

(continued on page 22)

PRESS RELEASES

(continued from page 21)

Materials work together to provide a detailed overview of ZOOK's comprehensive product offerings and capabilities. The site includes complete product information to help guide customers to their appropriate rupture disk selection.

Created with the process engineer in mind, the website is designed for ease of use to navigate the complex world of rupture disks. Features, Benefits, Product Details, Options and Accessories will help guide the user to ensure their safety through ZOOK's knowledge and performance.

"The launch of our new website, www.zook.cc, provides a user friendly experience with abundant online content exhibiting how our innovative solutions and new technologies will help your business attain a distinct competitive advantage," said ZOOK President and CEO, Greg Clark.



Lessons From a Meadow Could Impact Climate Change Models

For almost 40 years, field scientists strapped on cross-country skis, shouldered backpacks with supplies and set out over three miles of snow and rocks to a field station near a meadow high in the Rocky Mountains as soon as the snow began melting. Every other day, they counted each flower they found, identified the plant it belonged to and kept meticulous records of their observations.

Those observations provide the longest-running scientific study of its kind and tell a story of biological change that teaches scientists new lessons about phenology – the timing of biological events – and how they shift under the influence of climate change.

Unlike previous phenological studies that relied mostly on documenting the first appearance of flowers, the new analysis is the first to not only look at when flowers first appear, but also at peak flowering – that is, the time of year when most flowers are blooming – and the last day of flowering in a season. The study was led by Paul CaraDonna, a third-year doctoral student in the Department of Ecology and Evolutionary Biology at the University of Arizona, and Amy Iler, a postdoctoral researcher from the University of Maryland. The results are published this week in the journal *Proceedings*

of the National Academy of Sciences.

The paper paints a much more complex picture than previous phenological studies on which ecologists have relied to gather clues about how climate change affects the timing of biological events like flower buds popping, animals emerging from hibernation, leaves turning in the fall or flocks of birds taking off for their seasonal migration.

"We already knew that the timing of biological events, such as emergence of the first flowers in a season, has been shifting toward earlier dates, but we show it's more complicated than that," said Iler, who is affiliated with the Rocky Mountain Biological Laboratory, where the research was carried out.

The study provides data that could inform algorithms used in simulations that model phenological change to help predict what the future might have in store.

Located at 9,500 feet in Colorado, the study site at the Rocky Mountain Biological Laboratory encompasses meadows with wildflowers, aspen and conifer forests that are covered by a snowpack for the majority of the year. Once the snow melts in mid-May, flowers have only until early October to emerge, bloom, attract pollinators and disperse their seeds before the snow returns.

The paper, "Shifts in flowering phenology reshape a subalpine plant community," was co-authored by David W. Inouye of the Rocky Mountain Biological Laboratory and the Department of Biology at the University of Maryland.



Best-Selling Textbook Adds Chapter Focusing on Copper's Bacteria-Killing Properties

Copper's inherent ability to kill germs will now be taught in America's college and university curriculums.

A new chapter in the *Chemistry & Chemical Reactivity* textbook, published by Cengage Learning, features the results of a U.S. based clinical trial which found that metallic, copper alloy surfaces like brass and bronze reduced healthcare-associated infections in the hospital environment by continuously killing deadly bacteria, including the superbugs MRSA and VRE. The chapter, titled "The Chemistry of the Transition Elements," details how installing surfaces made from

these age-old metals is a 'simple and low cost way' to reduce infections in hospitals.

The 1,408-page textbook – now in its 9th edition and available in hard cover through various online retailers – is described on Amazon.com as “combining thorough instruction with the powerful multimedia tools you need to develop a deeper understanding of general chemistry concepts.”

A 2013 study, funded by the U.S. Department of Defense and published in the journal of Infection Control and Hospital Epidemiology, revealed that the use of copper alloy surfaces in Intensive Care Unit rooms reduced the number of healthcare-associated infections by 58 percent. Copper-based alloys are also the only metallic engineering materials registered by the U.S. Environmental Protection Agency to continuously kill greater than 99.9 percent of bacteria* within just two hours of contact.

Previous editions of the textbook are widely used in colleges, universities, and to a lesser extent high school advanced placement courses. The college level courses using the text are generally first year introductory courses, intended for a wide audience – biological and physical science majors, engineers, students interested in medical sciences, as well as chemistry majors.

Chemistry & Chemical Reactivity can be purchased on Amazon.com by clicking here. For more information about antimicrobial copper, visit www.antimicrobialcopper.com.



Fast Synthesis Could Boost Drug Development

Chemists devise a new way to manufacture peptide drugs, which hold promise for treating many diseases.

Small protein fragments, also called peptides, are promising as drugs because they can be designed for very specific functions inside living cells. Insulin and the HIV drug Fuzeon are some of the earliest successful examples, and peptide drugs are expected to become a \$25 billion market by 2018.

However, a major bottleneck has prevented peptide drugs from reaching their full potential: Manufacturing the peptides takes several weeks, making it difficult to obtain large quantities, and to rapidly test their effectiveness.

That bottleneck may soon disappear: A team

of MIT chemists and chemical engineers has designed a way to manufacture peptides in mere hours. The new system, described in the March 21st issue of journal *ChemBioChem*, could have a major impact on peptide drug development, says Bradley Pentelute, an assistant professor of chemistry and leader of the research team.

The lead author of the paper is Mark Simon, a graduate student in Pentelute's lab. Other authors include Klavs Jensen, head of MIT's Department of Chemical Engineering, and Andrea Adamo, a research associate in chemical engineering.

Therapeutic peptides usually consist of a chain of 30 to 40 amino acids, the building blocks of proteins. Many universities, including MIT, have facilities to manufacture these peptides, but the process usually takes two to six weeks, using machines developed about 20 years ago.

These machines require about an hour to perform the chemical reactions needed to add one amino acid to a chain. To speed up the process, the MIT team adapted the synthesis reactions so they can be done in a continuous flow system. Using this approach, each amino acid addition takes only a few minutes, and an entire peptide can be assembled in little more than an hour.

In future versions, “we think we're going to be able to do each step in under 30 seconds,” says Pentelute, who is also an associate member of the Broad Institute. “What that means is you're really going to be able to do anything you want in short periods of time.”

The research was funded by the MIT Reed Fund, the Deshpande Center, a Damon-Runyon-Rachleff Innovation Award, a Sontag Foundation Distinguished Scientist Award, a C.P. Chu and Y. Lai Fellowship, an AstraZeneca Distinguished Graduate Student Fellowship, the National Institute of General Medical Sciences, and the National Institutes of Health.

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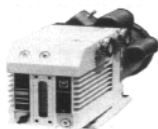
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