

# THE Indicator

NOVEMBER 2016

Vol. 97 • No. 9

ISSN0019-6924



**ELECTION**  
2016



Proud To Be A  
Republican

November  
8



Proud To Be A  
DEMOCRAT

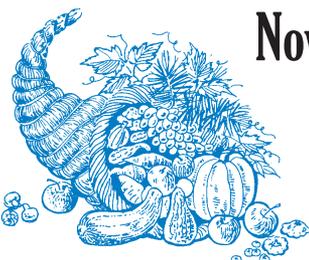
---



THANK A  
VETERAN TODAY

November 11

---



November  
24

**We Have  
So Much  
To Be  
Thankful  
For!**

PLEASE RECYCLE THIS PAPER

[www.theindicator.org](http://www.theindicator.org)

[www.njacs.org](http://www.njacs.org)

[www.newyorkacs.org](http://www.newyorkacs.org)

## **THIS MONTH IN CHEMICAL HISTORY**

Harold Goldwhite, California State University, Los Angeles • [hgoldwh@calstatela.edu](mailto:hgoldwh@calstatela.edu)

In recent columns I drew to your attention a new book about the history of chemistry, called "The Chemistry Book" by Derek B. Lowe, published by Sterling in 2016. Its subtitle is "From gunpowder to graphene; 250 milestones in the history of chemistry". One of the book's most attractive features is that each one page article is accompanied by a full page illustration, mostly in color, relevant to the milestone described. I will now review a few more entries in chronological order.

In 1631 a new and effective remedy against malaria was brought from South America to Rome. Known then as Jesuit's Bark it proved valuable against this debilitating disease which was common in the marshy areas of southern Italy. The efficacy of this remedy obtained from the cinchona tree seems to have been known to the indigenous peoples of what is now Bolivia and Peru and was subsequently exported to Europe by the envoys of the Catholic Church. For centuries the active ingredient in cinchona bark, which was later called quinine, was the only effective treatment for the fevers and weakness of malaria. Since the bark was rare and expensive in Europe only the wealthiest could afford the treatment. In the 20th. century a group of distinguished chemists including Rabe, Woodward, Doering, and Stork elucidated the structure of quinine and synthesized it.

In 1661 the great English natural philosopher (and alchemist!) Robert Boyle published his best-known (though one of his less readable) books: "The Sceptical Chymist". It is an attack on the 2000 year old theory of the four elements of Plato and Aristotle and their predecessors. The book is in the form of a dialog in which Boyle, a confirmed corpuscularist and adherent of the mechanical philosophy, steadily demolishes the arguments for a four element (earth, air, fire, and water) theory of matter; proposes a modern-sounding definition of an element; and concludes by doubting that he knows of any such material – the sceptic at work. What to me is most remarkable about this publication is that after 2000 years it was still worth mounting an attack on an ancient theory of matter.

In 1667 a somewhat obscure German alchemist and physician, Johann Joachim Becher, propounded a new theory of combustion that was, in my opinion, just a rehash of Plato and Aristotle's fire element. Becher opined that all materials that burn contain a fatty principle that he called terra pinguis, or fatty earth. A more significant follower of Becher was Georg Stahl, a German Court Physician and chemist, who took over Becher's earthy principle, renamed it phlogiston, and treated it in his own interpretations of combustion and oxidation as a material substance. Note the difference: material substance, not tenuous principle. In some respects Stahl's phlogiston theory of combustion can be called the first comprehensive chemical theory. Things burn because they are rich in phlogiston. When they burn they give off their phlogiston. The role of air in combustion is purely mechanical: to take up the emitted phlogiston.

In 1669 my favorite element, phosphorus, was first isolated by the alchemist Hennig Brand. The preparation, based upon alchemical views of the microcosm and the macrocosm, involves evaporating a large quantity of human urine to a paste; heating the paste to dryness in a retort; and then roasting the residue to redness when fumes of white phosphorus are given off and can be collected in water. This wondrous material glows spontaneously in air and hence was called phosphorus, or light bearer. Brand tried to keep his preparation a secret, in the best alchemical tradition, but hints soon leaked out and a few years later Robert Boyle published details of the preparation. Phosphorus was soon thereafter displayed as a parlor trick at parties.

**THE INDICATOR****Manager / Editor** - LINDA ATKINS3137 Hemlock Hill Road  
Pocono Pines, PA 18350  
973-981-4383[indicator.linda@gmail.com](mailto:indicator.linda@gmail.com)**Advertising Manager** - VINCENT GALEMBO Services, PO Box 1150  
Marshfield, MA 02050-1150  
781-837-0424[vincegale@mboseervices.net](mailto:vincegale@mboseervices.net)**INDICATOR COMMITTEE****Chair, DR. LES McQUIRE**17 Crown Drive, Warren, NJ 07059  
908-334-5473[Les@LesMcQuire.org](mailto:Les@LesMcQuire.org)**New York Section Rep.****DR. NEIL JESPERSEN**Chemistry Dept., St. John's University  
8000 Utopia Parkway, Queens, NY 11439  
718-990-5221[njespersn@stjohns.edu](mailto:njespersn@stjohns.edu)**North Jersey Section Rep.****JACQUELINE ERICKSON**GSK, 1500 Littleton Road, Parsippany, NJ 07054  
973-889-2368[jacqueline.a.erickson@gsk.com](mailto:jacqueline.a.erickson@gsk.com)**Web Masters**

NY Section - DR. BRIAN R. GIBNEY

[postmaster@newyorkacs.org](mailto:postmaster@newyorkacs.org)

NoJ Section - PAUL TUKEY

[tukey@verizon.net](mailto:tukey@verizon.net)**NEW YORK SECTION**<http://newyorkacs.org>**Chair, DR. ALISON G. HYSLOP**Department of Chemistry, St. John's University  
8000 Utopia Parkway, Queens, NY 11439  
718-990-6297 • [hyslopa@stjohns.edu](mailto:hyslopa@stjohns.edu)**Chair-Elect, DR. BRIAN R. GIBNEY**Dept. of Chemistry, CUNY, Brooklyn College  
2900 Bedford Avenue, Brooklyn, NY 11210-2889  
917-399-0607 • [brg33@newyorkacs.org](mailto:brg33@newyorkacs.org)**Secretary, DR. JOSEPH M. SERAFIN**Dept. of Chemistry, St. John's University  
8000 Utopia Parkway, Queens, NY 11439  
718-990-5226 • [serafinj@stjohns.edu](mailto:serafinj@stjohns.edu)**Section Office**St. John's University, Chemistry Dept.  
8000 Utopia Parkway, Queens, NY 11439  
516-883-7510; Fax 516-883-4003[njesper1@optonline.net](mailto:njesper1@optonline.net)**NORTH JERSEY SECTION**<http://www.njacs.org>**Chair, DR. LUCIANO MUELLER**Senior Research Fellow, Department of Lead  
Discovery and Optimization, Bristol-Myers Squibb  
Route 206 & Provinceline Rd., Princeton, NJ 08543  
609-252-4360 • [luciano.mueller@bms.com](mailto:luciano.mueller@bms.com)**Chair-Elect, DR. LANDON GREENE**7 Beehive Lane, Flemington, NJ 08822  
734-657-2305 • [Landon8399@yahoo.com](mailto:Landon8399@yahoo.com)**Secretary, BETTYANN HOWSON**

49 Pippins Way, Morris Township, NJ 07960

973-822-2575 • [chemphun@gmail.com](mailto:chemphun@gmail.com)**Section Office**

49 Pippins Way, Morris Township, NJ 07960

973-822-2575 • [chemphun@gmail.com](mailto:chemphun@gmail.com)**THE  
Indicator** The monthly newsletter of the New York & North  
Jersey Sections of the American Chemical  
Society. Published jointly by the two sections.**CONTENTS**

Advertisers' Index . . . . .	18
Call for Applications . . . . .	16
Call for Nominations . . . . .	14-15
Call for Volunteers . . . . .	15
New York Meetings . . . . .	5-8
North Jersey Meetings . . . . .	13-14
Others . . . . .	16-17
Professional/Product Director . . . . .	18

**EDITORIAL DEADLINES**

December	October 28
January 2017	November 28, 2016
February 2017	December 28, 2016
March	January 28, 2017
April	February 28
May	March 28
June	April 28
September	July 28
October	August 28
November	September 28

**Visit Us****[www.TheIndicator.org](http://www.TheIndicator.org)***The Indicator* (ISSN0019-6924) is published on-line monthly except July and August by the New York and North Jersey Sections of the American Chemical Society, Office of Publication, 1 Milbark Court, Homosassa, FL 34446.All views expressed are those of the editor and contributors and do not necessarily represent the official position of the New York and North Jersey Sections of the American Chemical Society unless so stated. Distributed electronically to members through the website [www.TheIndicator.org](http://www.TheIndicator.org). Non-members are invited to read it online. Members should register their email addresses at [www.acs.org/editmyprofile](http://www.acs.org/editmyprofile).

Address advertising correspondence to Advertising Manager. Other correspondence to the Editor.

## November Calendar

### NEW YORK SECTION

**Thursday, November 3, 2016**

Long Island Subsection  
See page 5.

**Thursday, November 6, 2016**

Chemical Marketing and Economics Group  
See page 6.

**Thursday, November 10, 2016**

Westchester Chemical Society  
See page 7.

**Thursday, November 17, 2016**

Long Island Subsection Board Meeting  
See page 7.

**Friday, November 18, 2016**

New York Section Executive Meeting  
See page 5.

**Friday, November 18, 2016**

High School Teachers Topical Group  
See page 8.

*also*

**Thursday, December 1, 2016**

LI Subsection Holiday Seminar & Election  
See page 8.

**Tuesday, December 6, 2016**

Chemical Marketing and Economics Group  
See page 10.

**Thursday, December 8, 2016,**

**Early February 2017**

Westchester Chemical Society  
See pages 8-9.

**Friday, December 16, 2016; Wednesday,**

**January 18, 2017; Fridays, February 10,**

**March 17, April 21, and May 19, 2017**

High School Teachers Topical Group  
See page 9.

### NORTH JERSEY SECTION

**Monday, November 14, 2016**

North Jersey Executive Committee Meeting  
See page 13.

**Monday, November 14, 2016**

Careers in Transition  
See page 13.

**Monday, November 14, 2016**

Chromatography Discussion Group  
See page 14.

**Deadline for items to  
be included in the  
December 2016 issue  
of *The Indicator* is  
October 28, 2016**

***The Indicator* is  
posted to the web  
around the 15th of  
the previous month at  
[www.TheIndicator.org](http://www.TheIndicator.org)**



### Micron Analytical Services

**COMPLETE MATERIALS CHARACTERIZATION  
MORPHOLOGY CHEMISTRY STRUCTURE**

**SEM/EDXA • EPA/WDXA • XRD XRF • ESCA • AUGER • FTIR • DSC/TGA**

**Registered with FDA • DEA**

**GMP/GLP Compliant**

**3815 Lancaster Pike Wilmington DE. 19805  
E-Mail [micronanalytical@compuserve.com](mailto:micronanalytical@compuserve.com)**

**Voice 302-998-1184, Fax 302-998-1836  
Web Page: [www.micronanalytical.com](http://www.micronanalytical.com)**

## New York Meetings

[www.newyorkacs.org](http://www.newyorkacs.org)

### NEW YORK SECTION BOARD MEETING DATES FOR 2016

The dates for the Board Meetings of the ACS New York Section for 2016 have been selected and approved. The meetings are open to all – everybody is welcome. All non-board members who would like to attend any of the meetings ought to inform the New York Section office by emailing Mrs. Marilyn Jespersen at [njesper1@optonline.net](mailto:njesper1@optonline.net) or by calling the Section office at (516) 883-7510.

All 2016 Board Meetings will be held on the following dates at St. John's University, 8000 Utopia Parkway, Jamaica, NY. Dr. Alison Hyslop will chair all meetings. Refreshments will be available starting at 6:00 PM while the actual meeting will start at exactly 6:30 PM. Please check Marilyn Jespersen for the exact building and room number. You may also be added in the mailing list if you so desire.

The board meetings dates for 2016 will be

#### Friday, November 18, 2016

More information will be posted in future monthly issues of *The Indicator* and on the New York website at

<http://www.NewYorkACS.org>



### LONG ISLAND SUBSECTION

Exciting Semi-Conducting Materials Discovery in Organic Electronics

**Speaker:** Dr. Sujun Wei  
Queensborough Community  
College– CUNY  
Bayside, NY

Organic electronics is a fascinating and interdisciplinary field of material science, concerning the design, synthesis, characterization, and application of organic small molecules or polymers. Typical applications include Organic Light-Emitting Diodes (OLED), Organic Field-Effect Transistors (OFET) and Organic Solar Cells (OSC). The emergence of new technology is often preceded by significant advances in materials. In this seminar, I'll introduce this particular field, and discuss our recent efforts in the exploration and understanding of a few new semiconducting materials. Among them I will focus on polymers containing thiophene-1,1-dioxide (TDO) by oxidizing polythiophenes with Rozen's reagent (HOF-CH<sub>3</sub>CN). This reaction can be controlled with this potent, yet orthogonal reagent under mild ambient conditions. It proceeds in a matter of minutes, introducing up to sixty percent TDO moieties in the polymer backbone. The resulting polymers have a remarkable low-lying unoccupied orbital (LUMO), consequently exhibiting a small band gap. I'll also discuss the investigation of small molecules' semiconducting properties by the Scanning Tunneling Microscope-based Breaking Junction method (STM-BJ).

**Date:** Thursday, November 3, 2016

Times: Social – 5:30 PM

Seminar – 6:00 PM

Place: CUNY Queensborough Community College, Science Building, S-111

Directions: <http://www.qcc.cuny.edu/about/driving.html>



## Robertson Microlit Laboratories

*Where speed and accuracy are elemental*

Elemental CHN, S, X, Analysis (same day service)

Metals by ICP-OES, ICP-MS, A/A

FTIR, UV/VIS Spectroscopy

Ion Chromatography

GC-MS

Polarimetry

DSC, TGA, melting point

KF Aquametry, Titrimetry

1705 U.S. Highway 46 • Suite 1D • Ledgewood, NJ 07852 • 973.966.6668 • F 973.966.0136

[www.robertson-microlit.com](http://www.robertson-microlit.com) • email: [results@robertson-microlit.com](mailto:results@robertson-microlit.com)

**Rapid Results • Quality • Accuracy • Competitive Pricing**

## CHEMICAL MARKETING & ECONOMICS (CM&E) GROUP

### Propelling Growth and Diversification through M&A

Speaker: Theodore Clark, CEO  
Royal Adhesives and Sealants

Date: Thursday, November 3, 2016  
Times: 11:00 AM. - 2:00 PM  
Place: Penn Club  
304 West 44 Street  
New York, NY  
Cost: Webcast free for ACS members  
For more information, see flyer below.



## PROPELLING GROWTH AND DIVERSIFICATION THROUGH M&A

Luncheon/Webcast • November 3, 2016 • Penn Club

Free Webcast for ACS National Members – Register at [www.cmeacs.org](http://www.cmeacs.org)

#### Abstract

Royal Adhesives and Sealants, a member of the American Securities portfolio of companies, today ranks among the world's top ten adhesive companies. Its remarkable growth was achieved by navigating successfully the challenges of conducting 18 acquisitions since 2003 while the company ownership itself changed hands three times to fit its key stages of expansion. It has established an industry hallmark for dynamic integration into a single global management system designed to benefit customers through global scale, diversified technologies, application service expertise and supply chain efficiencies.

The global market for adhesives & sealants, valued at \$42 billion with a CAGR of 3.2%, is highly fragmented with the top ten players representing 45% of the market and 55% of the market represented by a few players with sales between \$100 to \$350 Million and numerous players between \$5 to \$100M in sales driven by vehicle light weighting, energy efficiency and the replacement of mechanical fasteners which has created a vibrant environment of exciting opportunities. After 13 years executing a strategy of organic growth and M&A, Royal Adhesives is well poised to continue to capitalize on these changes.

Join us to hear the insights of the M&A architect at Royal Adhesives about his prolific record of growth through acquisitions and his views about the future.



Speaker: **Theodore Clark** is the Co-Founder, President and Chief Executive Officer of Royal Adhesives & Sealants LLC, a global top ten manufacturer of adhesives and sealants for the transportation, assembly and construction industries and is also an investor and member of the Board of Directors of MPD Laboratories Inc. a leading manufacturer of acrylate and organosilicon monomers used for healthcare applications including dental technologies, bio medical, wound care and contact & intraocular lenses and a former investor and Board of Director of Nusil LLC a leading silicone manufacturer and supplier to the medical and aerospace industry. Mr. Clark is also on the Foundation Board or Directors for Verdugo Hills Hospital in La Canada California.

Mr. Clark has over thirty five years executive experience including the last twenty as President and Chief Executive of three different specialty chemical manufacturers, PRC-Desoto International, Burke Industries and has led Royal Adhesives LLC since its founding in 2003.



#### Event Schedule

Location:  
Penn Club  
30 W 44th Street, NYC.  
Event Times: (ET)  
11:15 am - 12:00 noon  
Registration and  
Networking  
12 noon - 1 pm Luncheon  
1 pm - 2 pm Talk - Webcast  
Luncheon Fees  
\$120 for non-members  
\$90 for members  
Check for Early-bird savings  
Webcast - \$30. Free webcast  
recording for ACS members

Event Host  
Chris Cerimele

#### CM&E Board

Chair  
Charles Brumlik  
Vice Chair  
Guy Penard  
Program Chair  
James Weatherall  
Secretary  
Adam Closson  
Treasurer  
Karin Bartels  
Directors  
Neil Burns  
Chris Cerimele  
David J. Deutsch  
Brian Orkin  
Paul Pospisil

Student Volunteers  
Paloma Beraldo  
Anne Powers  
Anahit Stepanyan  
Debra Rooker  
Xiao Zhong

LEADERSHIP  
Awards™  
December 6, 2016

[www.cmeacs.org](http://www.cmeacs.org)

## WESTCHESTER CHEMICAL SOCIETY

### Special Seminar – “Competitive AlphaScreen® Assay for Hyaluronan Detection”

Speaker: Xiayun Huang  
Tandon School of Engineering  
New York University  
New York, NY

This is a sensitive, rapid and cost-effective assay for hyaluronan (HA) quantification. It is almost independent of HA molecular mass; all HA greater than about 10 monosaccharides in length are equally detected. HA can be detected in the mass range of approximately 0.06-8 ng, using 2.5  $\mu$ l of sample containing HA at a concentration of approximately 25-3200 ng/ml. This homogeneous assay does not require any wash step, in contrast with traditional enzyme-linked immunosorbent assays. It combines specific binding between hyaluronan (HA) and aggrecan (G1-IGD-G2) with AlphaScreen® technology. AlphaScreen uses two types of beads: donor beads and acceptor beads. Donor beads convert ambient oxygen to excited singlet oxygen upon illumination at 680 nm. The singlet oxygen can diffuse approximately 200 nm in solution. Within this distance, energy can be transferred from the singlet oxygen to acceptor beads, which subsequently emit signal at 520-620 nm. Two beads can be brought into proximity through interaction of an analyte and its antibody or other binding partner.

In this HA assay, streptavidin-coated donor beads are used to bind biotinylated HA. The HA can specifically bind histidine-tagged aggrecan (G1-IGD-G2), which can in turn be captured by nickel chelate acceptor beads. Because the biotin-streptavidin interaction and Ni<sup>2+</sup>-histidine interactions are of very high affinity, the proximity of the two beads is determined by binding of the HA and aggrecan (G1-IGD-G2) that are tethered to the donor and acceptor beads, respectively. Signal due to the HA-aggrecan binding can be competitively inhibited by addition of unlabeled HA, either from calibration standards or samples. Unlabeled HA inhibits the HA-aggrecan interaction in a dose-dependent manner. By the extent of signal decrease, HA concentration of samples can be quantified.

Xiayun Huang is a Ph.D. student in Materials Chemistry at the Tandon School of

Engineering, New York University. He is currently working with Dr. Mary Cowman focusing on bioanalytical and biophysical chemistry, with special emphasis on hyaluronan (HA) research. Xiayun got his Bachelor of Science in Pharmaceutical Science from Fudan University, Shanghai, China.

**Date:** Thursday, November 10, 2016

Times: Refreshments 5:30 PM

Lecture 6:00 PM

Place: Westchester Community College  
Gateway Building, Room 110  
75 Grasslands Road  
Valhalla, NY

Cost: Free and Open to the Public

Further Information: Paul Dillon

[PaulWDillon2@hotmail.com](mailto:PaulWDillon2@hotmail.com)

(914) 393-6940

Or:

Anthony Durante

[anthony.durante@bcc.cuny.edu](mailto:anthony.durante@bcc.cuny.edu)

(718) 289-5542 or 5569

### Note: Inclement Weather: Cancellation Due to Inclement Weather

Should Westchester Community College's Valhalla campus close due to inclement weather (or has delayed opening or closes early) the meeting will be cancelled. Decisions about delay/closure are made around 6:00 AM for day courses and 3:00 PM for evening courses. The college will communicate delays, closings or early dismissals on their website ([www.sunywcc.edu](http://www.sunywcc.edu)), Facebook, Twitter, and the (914) 606-6900 phone line.



## LONG ISLAND SUBSECTION

### Board Meeting:

**Dates:** Thursday, November 17, 2016

Times: 6:30 PM

Place: Nassau Community College  
Life Sciences Building  
Chemistry Department Office  
2nd Floor

## BOOST OUR RAVINGS

When you tell our advertisers that you saw their ads here they have more confidence in our newsletter's viability as an advertising medium. They advertise more. This supports our many activities.

## HIGH SCHOOL TEACHERS TOPICAL GROUP

### The Discovery of Gravitational Waves from Colliding Black Holes

*Speaker:* Imre Bartos  
Columbia University.

One hundred years ago, Albert Einstein predicted the existence of gravitational waves, ripples in the very fabric of space-time. Gravitational waves can be created during the birth and collision of black holes, and can reach us from distant galaxies. The Laser Interferometer Gravitational-wave Observatory (LIGO) recently detected gravitational waves for the first time in history from black holes billions of light years away. LIGO measured miniscule disturbances in space, much smaller than the size of the atoms from which the detector is built. The detection of gravitational waves and black holes will fundamentally change our understanding of gravity and space, and will expand the frontiers of astrophysics and cosmology by opening a new window to the universe. I will introduce gravitational waves, their recent discovery and how this will change the course of astronomy.

**Date:** Friday, November 18, 2016

**Times:** Social and Dinner — 5:45 PM

Meeting — 7:15 PM

**Place:** Social and Dinner — TBD

Meeting — New York University

Silver Center for Arts and  
Sciences, Room 207

Enter from 32 Waverly Place

South-east corner Washington

Sq. East or Washington Place

New York, NY

Security at NYU requires that you show a picture ID to enter the building.

In case of unexpected severe weather, call John Roeder, (212) 497-6500, between 9:00 AM and 2:00 PM to verify that meeting is still on; (516) 385-4698 for other info.

Note: On street parking is free after 6:00 PM.

*"We have staked the whole future of American civilization not on the power of government, far from it. We have staked the future of all of our political institutions upon the capacity of each and all of us to govern ourselves according to the Ten Commandments of God."*

*James Madison*

## 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](mailto:hessytaft@hotmail.com).

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



## LONG ISLAND SUBSECTION

### Holiday seminar and election

**Date:** Thursday, December 1, 2016

**Time:** 5:30 PM

**Place:** Nassau Community College



## WESTCHESTER CHEMICAL SOCIETY

### FUTURE MEETINGS

\*\*\*\*

### Special Seminar – "Effects of Overhanging Analyte Oligo Tails in Model DNA and Morpholino Arrays"

*Speaker:* Ursula Koniges  
Tandon School of Engineering  
New York University,  
Brooklyn, NY

Hybridization of in-solution nucleic acid targets to surface-immobilized probes is a common mechanism employed in genetic analysis methods, for example DNA microarrays. In such applications, in-solution targets can be imperfect length matches to surface probes, with the resulting possibility of nucleic acid tails extending toward the surface, toward solution, or with overhangs of both orientations. We report the impact of surface- and solution-oriented tails on hybridization thermodynamics at a surface, and compare these results to a perfectly size-matched target and to solution

hybridization thermodynamics. Several different probe coverages and solution ionic strengths are investigated. In addition to a DNA probe, a probe comprised of an uncharged DNA analogue, morpholino, is used to investigate the electrostatic contribution to the tail-orientation dependent biases. The reported results indicate that a surface-oriented tail markedly increases the hybridization energy penalty, whereas a solution-oriented tail has a significantly lower energy penalty effect. These results also help explain observations from a comparative study of the performance of DNA and morpholino microarrays.

Ursula Koniges is completing her Ph.D. in chemical engineering at New York University's Tandon School of Engineering in the Department of Chemical and Biomolecular Engineering. Her doctoral work is supervised by Dr. Rastislav Levicky, and focuses on the development of DNA-based biosensors. Ursula's undergraduate work at the University of Washington in Seattle earned her dual bachelor's degrees in biochemistry and chemical engineering, and a minor in international studies.

**Date: Thursday, December 8, 2016**

For Times, Place, Cost, and Further Information, see page 7.

\*\*\*\*

**Special Seminar – “Yes, But Why Sulfuric Acid? - Young William H Nichols Entry into 19<sup>th</sup> Century Chemical Industry”**

*Speaker:* Peter Corfield, PhD  
Department of Chemistry  
Fordham University  
Bronx, NY

William H Nichols was a remarkable man who had great influence on the young New York chemical industry. He and his friend Charles Waters started manufacturing mineral acids when he was only eighteen. He eventually founded the General Chemical Company, which after many mergers and acquisitions became the Allied Chemical Corporation. He was noted for his entrepreneurial spirit, for bringing scientific principles into manufacturing, and for high ethical standards. As a mature industrial chemist, Nichols funded the gold medal for the New York Section's new annual research award in 1902. This became the first national award of the American Chemical Society, now known as the William H. Nichols Medal Award. The presentation will explore

Nichols' contributions in the context of the state of chemical industry in New York during the latter part of the nineteenth century.

**Tentative**

**Date: Early February, 2017**

For Times, Place, Cost, and Further Information, see page 7.



**HIGH SCHOOL TEACHERS  
TOPICAL GROUP**

**FUTURE MEETINGS**

\*\*\*\*

**Friday, December 16, 2016**

**Wednesday, January 18, 2017**

**Friday, February 10, 2017**

**Friday, March 17, 2017**

**Friday, April 21, 2017**

**Friday, May 19, 2017**



**NEW YORK NANOSCIENCE  
DISCUSSION GROUP**

**2016-2017 Sessions**

*Hosted by the New York University  
Department of Chemistry*

Speakers to be announced.

The NYNDG is an ACS Topical Group that meets in the New York University Department of Chemistry. Sessions feature three 30-minute presentations on nanoscience, one each with strong orientation in biology, chemistry, and physics/applied mathematics. Presentations will be focused on discussion of recent work, although speakers will place the work in a context understandable to a broad audience.

**Mark Your Calendars**

**Dates: Tuesdays, February 7 and  
June 6, 2017**

**Times:** Refreshments at 7:00 PM  
Science at 7:30 PM

**Place:** New York University, Silver Center  
31 Washington Place (between  
Washington Square East and  
Greene Street)  
Room 1003 (10th floor)

For more information, contact: James  
Canary ([james.canary@nyu.edu](mailto:james.canary@nyu.edu))

Topical Group History: <http://www.nyu.edu/projects/nanoscience>



## LEADERSHIP Awards™



### 2016 HONOREES



#### Historic Industrial Investment

**Len  
Blavatnik**

Access Industries  
Founder and  
Chairman. American  
Industrialist and  
Philanthropist.



#### Lifetime Achievement

**David M.  
Cote**

Chairman and CEO  
of Honeywell.  
Director to the  
Federal Reserve  
Bank of New York.



#### Science Involvement

**Major Gen. Charles  
F. Bolden, Jr.**

NASA Administrator.  
Former Astronaut and  
Deputy Commanding  
General of the US  
Forces in Japan.



#### Extraordinary Innovation

**Jean-Pierre  
Clamadieu**

Solvay CEO and  
Board Member.  
European Chemical  
Industry Council  
President

Tuesday December 6, 2016 • 11:30 am – 2:30 pm

Metropolitan Club, 1 E 60th St, New York, NY 10022

CELEBRATE TODAY'S LEADERS - ENABLE THOSE OF TOMORROW



## Eastern Scientific

[www.easternsci.com](http://www.easternsci.com)

781-826-3456

## *Vacuum Pump Problems?*

Eastern Scientific  
specializes in the repair and  
precision rebuilding of all  
makes of mechanical  
vacuum pumps.

*Free pick-up & delivery  
Restrictions apply*



## **New York Senator Peralta Will Attend New York Section National Chemistry Week Celebration on Oct. 30, 2016**



**Meet our esteemed guest, New York Senator Jose Peralta, as he celebrates the National Chemistry Week (NCW) 2016 with us! Senator Peralta will attend our NCW Chemistry Hands-on Event on Sunday, October 30, 2016 from 1:30 pm to 2:30 pm at New York Hall of Science. (Photo Source: NY State Senate)**

Dear NCW Coordinator, Chemistry Department Head or Chemistry Club Advisor:

We would like to share this exciting news with you: Thanks to our Section Chair, Dr. Alison Hyslop, and Government Affairs Leader, Dr. Marc Walters, who extended warm invitation to Senator Jose Peralta of District 13 to attend our NCW-NYSCI Chemistry Event, the Senator has graciously accepted the invitation and will show up with his staff from 1:30 pm to 2:30 pm on the event day (Sunday, Oct. 30th)!

We hope you, your students and/or colleagues will take this great opportunity to meet with and speak to the Senator as representatives of your prestigious organization, and sponsors/volunteers of this largest outreach program of the New York Section of the American Chemical Society!!! Please visit NY-NCW website for additional information at: [http://www.newyorkacs.org/meetings/NCW/2016\\_ncw.php](http://www.newyorkacs.org/meetings/NCW/2016_ncw.php).

We look forward to your organization's sponsorship as we celebrate the important roles chemistry plays in our everyday lives and demonstrate how it can be FUN! Please include theme related activities celebrating solving mysteries through chemistry if you can!! Volunteers' parking at NYSCI is FREE.

Additionally, we are in need of sponsors for financial support to help offset many expenses associated with the event (rentals, goggles, printing, prizes, giveaways, advertisements, etc.). A donation of \$300 is a Gold Sponsor, \$150 a Silver Sponsor, and \$50 a Bronze Sponsor. We also accept any in-kind-donations (printing service, goggles, rentals, balloons, etc.). Please note that ACS is a non-profit 501(c)(3) organization, and as such, donations to support local section programs are tax deductible.

As a way of acknowledging your generous sponsorship, we will post your organization's logo on our website, and, if possible, include it in our NCW promotional materials if you email your logos to us. (If your organization has already sent in your logos through your previous year participation, you do not need to resend the logos.)

Thank you all in advance for your support. Please feel free to contact us should you have any questions. We look forward to seeing you and your organization's representatives on Sunday, October 30, 2016 at NYSCI!

Sincerely yours,

Ping Furlan ([furlanp@usmma.edu](mailto:furlanp@usmma.edu)), NCW Committee Chair  
Scott Lefurgy ([Scott.T.Lefurgy@hofstra.edu](mailto:Scott.T.Lefurgy@hofstra.edu)), NCW Committee Co-Chair  
Erin Wasserman ([Ewasserman602z@gmail.com](mailto:Ewasserman602z@gmail.com)), NCW Committee Co-Chair

The New York Section of the American Chemical Society Presents

# Solving Mysteries Through Chemistry!

@ The New York Hall of Science (NYSCI)



Sunday, Oct. 30, 2016  
11am-4pm

Join us for a fun-filled day with  
NYC-area *chemists*, *college teachers*,  
& *students* presenting *hands-on chemistry*  
*demonstrations* for children of all ages.



*Free with*  
*museum admission*  
NYSCI admission is free 10-11 am

*(\$5 cash deposit required*  
*for safety goggles)*



ACS

Chemistry for Life®



New York Hall of Science

For more info: [newyorkacs.org](http://newyorkacs.org) • [nysci.org](http://nysci.org)

## North Jersey Meetings

<http://www.njacs.org>

### **NORTH JERSEY EXECUTIVE COMMITTEE MEETING – CONCURRENT WITH NORTH JERSEY CHROMATOGRAPHY DISCUSSION GROUP**

Section officers, councilors, committee chairs, topical group chairs, and section event organizers meet regularly at the Executive Committee Meeting to discuss topics of importance to running the section and representing the membership. Attendees will have the opportunity to join the **Chromatography Discussion Group** for dinner prior to the start of the business meeting.

**Date:** Monday, November 14, 2016

**Time:** Dinner joining NJCG  
6:30 – 7:00 PM

**Place:** Room TBD  
DoubleTree Hotel  
200 Atrium Drive  
Somerset, NJ

**Time:** Executive Meeting  
7:00 – 8:30 PM

**Place:** Room TBD

(Teleconference participation enabled)

For reservations please call NJACS secretary Bettyann Howson (973) 822-2575 or email [chemphun@gmail.com](mailto:chemphun@gmail.com) or register online at <http://www.njacs.org> by **Friday, November 11, 2016**

No shows are kindly asked to provide advance notice



### **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, November 14, 2016

New from now on is a second CIT meeting in East Windsor on the third Monday. Contact Bill for details.

**Times:** Meeting 2:30 - 5:00 PM

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

**Cost:** No charge

**Reservations:** at [www.njacs.org/careers.html](http://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](mailto:billsuits@earthlink.net).

See [www.njacs.org](http://www.njacs.org) under the Career tab for Jobs hidden from sight and relevant blogs.



### **NJACS PARTNERS WITH STUDENTS2SCIENCE**

Members are encouraged to volunteer at their East Hanover facility and explore their website at [www.students2science.org](http://www.students2science.org) to learn more about this innovative program.

S2S continues to expand their exciting laboratory experience the disadvantaged children. Many of our members continue to volunteer as mentors. At their 2 million dollar analytical lab, every 40 kids are assisted by 16 professional volunteer mentors. The experiments performed really make chemistry and science come alive using state of the art analytical equipment working with students starting in 6th grade up to HS seniors. Each day is optimized for grade level and curriculum.

Now the program has further expanded with internet video and experiments performed in the classroom for 4th & 5th grades. Internet allows views of the lab in operation and relates to simpler experiments setups done in the classroom with their teacher and a partnering chemist.

North Jersey members who volunteered benefited in many ways. Those in transition expanded their network and received job finding assistance. Retired chemists met up with old friends and made many new friends.

(continued on page 14)

## **NJACS PARTNERS WITH STUDENTS2SCIENCE**

*(continued from page 13)*

Those with jobs used the volunteer hours as part of the company outreach programs and team training. All feel great about making a difference in the lives of the youth who may have never met a scientist or considered a career in the sciences.

Please consider volunteering and discovering more about this innovative program. If you want to learn more, you can speak with Don Truss at (908) 334-8435.



## **CHROMATOGRAPHY DISCUSSION GROUP – CONCURRENT WITH EXECUTIVE COMMITTEE MEETING**

**Date:** Monday, November 14, 2016

**Time:** Dinner joining Exec. Committee  
6:30 – 7:00 PM

**Place:** Room TBD  
DoubleTree Hotel  
200 Atrium Drive  
Somerset, NJ

**Time:** Meeting  
7:00 – 8:30 PM

**Place:** Room TBD

---

## **Call for Nominations**

---

### **2017 ESSELEN AWARD FOR CHEMISTRY IN THE PUBLIC INTEREST**

The Northeastern Section of the American Chemical Society is pleased to invite nominations of worthy candidates for the Gustavus John Esselen Award for Chemistry in the Public Interest. This award recognizes a chemist for outstanding achievement in scientific and technical work that contributes to the public well-being. The Awardee should be a living resident of the United States or Canada at the time of nomination, and the significance of this work should have become apparent within the five years preceding nomination.

The award consists of a \$5000 prize and a medal of recognition. Travel expenses incidental to the conferring of this award will be

reimbursed. The presentation takes place at an award ceremony in April at Harvard University, followed by a formal address by the awardee. The award address should be at a level where it would be of interest to an audience that does not have knowledge of the specific field. **The tentative date for this ceremony is April 27, 2017.**

The award was established in 1987 to honor the memory of Gustavus John Esselen, a distinguished member of the Northeastern Section. The first awardees were F. Sherwood Rowland and Mario J. Molina, who subsequently received the Nobel Prize. Several other recipients of the Esselen Award have also been Nobel awardees.

The Esselen Award has no limitations with respect to the chemical field in which the nominees are active. It differs from many other awards in that it is for chemical activities whose importance to the public has been demonstrated.

Nominations shall include 1) a letter signed by the primary sponsor with a description of the nominee's work recognized as making a major contribution to the public welfare and as communicating positive values of the chemical profession, plus the names of two co-sponsors; 2) short supporting co-sponsor statements; 3) the nominee's professional biography including a list of no more than ten of the nominee's publications selected for their pertinence to the work nominated for recognition; and 4) copies of popular and technical press news or feature articles indicative of public benefit and interest.

Inquiries should be directed to Dr. Karl Hansen, c/o Jeananne Piper Grady, 11 Thaxter Street, Hingham, MA 02043. All nomination material must be consolidated into a single electronic pdf file and emailed to [karl@amgen.com](mailto:karl@amgen.com) with a copy to [JPiperGrady@gmail.com](mailto:JPiperGrady@gmail.com). **The due date is October 15, 2016.** Joint nominations are acceptable. The Committee will review the nominations and the award recipient will be notified by the first of February, 2017.

Further information is available at [www.nesacs.org/awards\\_esselen.html](http://www.nesacs.org/awards_esselen.html). This announcement is to seek nominations of colleagues whose work meets the criteria and purpose of the award.

**The deadline for nominations is October 15, 2016.**

## COMMITTEE ON THE HISTORY OF THE NEW YORK SECTION

Over the past twenty-three years the New York Section has participated in the designation of seven National Historic Chemical Landmarks and four New York Section Historic Chemical Landmarks. A brief description of these National and local section landmarks may be found on the NY Section Home Page at [newyorkacs.org](http://newyorkacs.org), under the Committee on the History of the NY Section. These landmark programs recognize achievements in the chemical sciences and related areas, in order to enhance public appreciation for the contributions of the chemical sciences to modern life.

Please consider making a nomination for an historic chemical landmark. The Committee on the History of the NY Section will consider all nominations. In addition to a particular achievement, an historic library, building or association may be worthy of this distinction.

Please send your nomination, with supporting documentation, to the Chair of the Committee, Dr. John B. Sharkey, at [johnbsharkey@me.com](mailto:johnbsharkey@me.com).



## THE SOCIETY FOR APPLIED SPECTROSCOPY – NEW YORK SECTION

### 2017 Gold Medal Award

Nominations are being sought for the 2017 Gold Medal Award of the New York Section of the Society for Applied Spectroscopy. This coveted award was established in 1952 to recognize outstanding contributions to the field of Applied Spectroscopy. The Gold Medal will be presented at a special award symposium, arranged in honor of the awardee, at the 2017 Eastern Analytical

Symposium. A nominating letter describing the nominee's specific accomplishments should be submitted along with a biographical sketch and list of publications by January 10th, 2017. Please email all materials to [Kathryn.lee@rap-iD.com](mailto:Kathryn.lee@rap-iD.com) or mail to Kathryn Lee, Rap-ID Inc., 11 Deer Park Drive, Suite 201, Monmouth Junction, NJ 08852.

This announcement and contact information is also available on our website [www.nysas.org](http://www.nysas.org)

If you have any questions or require more information, you may contact Kathryn Lee at (732) 823-1567.

## Call for Volunteers

### OPPORTUNITY FOR ACS MEMBERS TO AID STUDENTS 2 SCIENCE IN A HYBRID VIRTUAL LAB PROGRAM

Can you spare a few hours of your time? Do you like working with students and would you like the opportunity to share your science knowledge in a classroom? Students 2 Science is seeking volunteers to aid in our Virtual Lab program. We have a series of elementary, middle, and high school experiments that we will be running in various schools across New Jersey. Members are especially needed to help with the North Jersey section's IPG funded project to bring hands-on science to South Jersey. We need professionals to help in the classroom with the students. It's great fun, a wonderful way to give back, and only requires a few hours of your time. Opportunities begin in November. For more information, contact Fran Nelson, [frannelson@students2science.org](mailto:frannelson@students2science.org) and visit our website at [Students2Science.org](http://Students2Science.org)

Serving Pharma/Biopharma, Industry, Academia & Government Since 1992



**QUANTEX**  
LABORATORIES

## Analytical and R&D Services

FDA Registered GMP/GLP Compliant

# 609.655.4047

**Metals by AAS, ICP-OES, ICP-MS • GC(FID, TCD, ECD) • HPLC(UV, PDA, RI, FL, ELSD, PAD, Coulometric)**  
**IC • GC/MS • LC/MS • FTIR/FTIR-HATR • UV/Visible Spectroscopy • Polarimetry • Osmometry**  
**KF • Titrimetry • TOC • Lovibond • Particulate Matter • Headspace • Purge & Trap**

[www.quantexlabs.com](http://www.quantexlabs.com)

3000 Eastpark Blvd., Cranbury, New Jersey 08512 P: 609.655.4047 F: 609.655.4374  
 email: [info@quantexlabs.com](mailto:info@quantexlabs.com) [www.quantexlabs.com](http://www.quantexlabs.com)

---

## Call for Applications

---

### **WILLIAM H. NICHOLS FELLOWSHIP**

The New York Local Section of the American Chemical Society is proud to announce the continuation of a summer research opportunity for undergraduates, the William H. Nichols Fellowship. The Nichols Fellowship is open to all college students majoring in chemistry (broadly defined) who will perform research over the summer before graduation at an institution in the NY Local Section geographic area. Each Nichols Fellow receives a stipend of \$5,000 to support them as they perform their research, and is expected to submit a two-page written report at the end of the summer and present their work at the 2018 Undergraduate Research Symposium. In addition, each Nichols Fellow and their mentor will be invited as honored guests to the 2018 William H. Nichols Award Banquet.

Applications are available online at [www.newyorkacs.org/NicholsFellowship.php](http://www.newyorkacs.org/NicholsFellowship.php) and are **due December 15, 2016**. All applicants will be notified by **March 1, 2017**.



### **FREDDIE AND ADA BROWN AWARD**

This Award recognizes and encourages high achieving middle- and high-school students, of African American and Native American heritage, to further develop their academic skills, with views on careers in the chemical sciences

#### **Award Amounts**

Middle School \$100.00 Check and \$50.00 gift certificate : High School \$200.00 Check and \$100.00 gift certificate

#### **Who is Eligible**

Middle School students enrolled in a science class : High School students who have completed a chemistry course

#### **Grades**

Middle School B Average or better in Science, B Average overall : High School B Average in Chemistry, B Average overall

#### **Letter of Recommendation**

Math or Science/Chemistry Teachers or Guidance Counselor

#### **Statement**

Middle School "Why I Like Science" : High School "Why I Like Chemistry"

#### **Selection Criteria**

Applicants must be African American (Black) or Native American (including Pacific Islander) or of mixed race.

#### **Transcript**

Official transcript required.

#### **Financial Need**

Not Required.

Applications available on the web: [www.njacs.org/freddieadabrown](http://www.njacs.org/freddieadabrown)

or from your school guidance office.

#### **Return Application To**

Freddie and Ada Brown Award, NJACS Section Office, 49 Pippens Way, Morristown, NJ 07960

#### **Due Date**

Completed Applications must be post-marked no later than **March 31 Annually**

**Questions:** Contact Jeannette Brown [Jebrown@infionline.net](mailto:Jebrown@infionline.net) or (908) 239-1515

---

## Others

---

### **ASIR MATERIALS CORPORATION**

ASIR Materials Corporation was launched in 2015 to contribute to evolutionary science emanating from the technology sector. Some of the key markets, in which we have an interest, include electronic, automotive and optical materials.

At this time, we would like to graciously request that any entity, academic institution, government laboratory, healthcare facility or privately owned corporation that is looking to dispose of any used glassware, instrumentation, equipment or reagents please consider donating your excess to us. Your donation will lower your carbon footprint and contribute to the health of the environment.

If you have any questions or concerns, feel free to contact us at (718) 655-4067 or [info@asirmaterials.com](mailto:info@asirmaterials.com). Thank you for your time and attention.

## HERE'S HOW NATURAL GAS IS CONVERTED INTO METHANOL AT ROOM TEMPERATURE

Twenty years after the technique was developed, a collaboration between scientists at KU Leuven (University of Leuven), Belgium, and Stanford University has revealed the mechanism behind the direct conversion process of natural gas into methanol at room temperature. This discovery will have major consequences for the future use of methanol in various everyday applications. The findings were published in *Nature*. (Original press release (with images): [www.kuleuven.be/english/news/2016/scientists-unravel-how-natural-gas-is-converted-into-methanol-at-room-temperature](http://www.kuleuven.be/english/news/2016/scientists-unravel-how-natural-gas-is-converted-into-methanol-at-room-temperature))

Methanol is among the twenty most commonly used substances in the chemical industry. It's used to produce antifreeze, fuels, and solvents, but also in various kinds of plastic that we use every day. The substance is made from natural gas (methane). The large-scale conversion of methane into methanol currently involves various steps under high pressure and at a high temperature, making it a process that requires a lot of energy.

In the nineties, therefore, scientists developed a more direct method to produce methanol – a process that even produces extra energy. However, scientists didn't really understand the process. It was a kind of 'black box' into which they inserted methane, with a big chance that methanol would come out at the other end.

Twenty years later, postdoctoral researcher Pieter Vanelderden from the Centre for Surface Chemistry and Catalysis at KU Leuven (University of Leuven), Belgium, has unravelled the mechanism behind the process in collaboration with chemists from Stanford University.

The chemical reaction involves adding a specific substance known as a catalyst. Many catalysts consist of zeolites – minerals with a porous framework – containing a specific atom. For the direct conversion of methane into methanol, this catalyst is a zeolite with added iron. Professor Bert Sels: "we found that the iron needs to bind to the zeolite in a flat, bound orientation".

"We have provided the first exact definition of what the iron atom looks like that is needed to convert methane into methanol at

room temperature. Furthermore, we can describe why this conversion method is so successful," explains Pieter Vanelderden. This discovery may revolutionize the production of methanol and, by extension, all its derivatives that we use in our everyday lives.

"This breakthrough has happened because we were the first chemists to join forces with biochemists to work on this topic," says Vanelderden. "Our colleagues at Stanford are specialized in the use of enzymes as catalysts in chemical reactions. Using methods initially developed to study iron-containing enzymes, they managed to take a 'picture', as it were, of what it is that happens to this iron-containing zeolite during the conversion of methane into methanol. This information allowed us to determine which specific iron atom was doing the work and to find its exact location in the zeolite."

Now that scientists know exactly what the catalyst looks like, they can start imitating and optimizing it in the lab. This opens up quite a few possibilities for the future. For one thing, the production of the methanol needed to produce plastic will become a lot cheaper. The catalyst is also useful for the conversion of nitrogen oxides. It could be used, for instance, to clean the exhaust fumes of cars.

### Media contacts

Pieter Vanelderden, Centre for Surface Chemistry and Catalysis, tel.: +32 16 37 67 45, email: [pieter.vanelderden@kuleuven.be](mailto:pieter.vanelderden@kuleuven.be).

Professor Bert Sels, Centre for Surface Chemistry and Catalysis, tel.: +32 16 32 15 93, email: [bert.sels@kuleuven.be](mailto:bert.sels@kuleuven.be).

### More information

This study was coordinated by Professor Bert Sels and Professor Robert Schoonheydt from the KU Leuven Centre for Surface Chemistry and Catalysis, in collaboration with Professor Kristine Pierloot (KU Leuven) and Professor Edward Solomon at Stanford University. Benjamin Snyder, a graduate student at Stanford University, is co-lead author.

The study was funded by Research Foundation Flanders (FWO), and the National Science Foundation of the USA.

## Professional/Product Directory

*We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.--That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed...*

**NMR<sub>Service</sub> 500MHz**  
**\*Mass**  
**\*Elemental Analysis**  
**NuMega Resonance Labs**  
 numegalabs.com P- 858-793-6057

**WANT MORE ARTICLES**

When you tell our advertisers that you saw their ads here they have more confidence in our newsletter's viability as an advertising medium. They advertise more. This supports our many activities.

**SEARCHING FOR THAT SPECIAL JOB?**

There are many companies and organizations searching for chemical and biochemical personnel to fill important jobs in their organizations.

- Companies for laboratory and management positions
- Universities & Colleges for teaching positions and laboratory personnel
- Hospitals for technical and research personnel

There are several web sites that may help you search for these open positions.

- [www.mboservices.net](http://www.mboservices.net)
- <http://newyorkacs.org/jobs.html>
- <http://njacs.org/jobs.html>

**YOU TOLD US**

Membership surveys show that you want more articles in our newsletter. If you tell our advertisers that you saw their ad here, they will provide more financial support and this will allow us to add more articles.

## Ad Index

### ANALYTICAL

Micron Inc. ....	4
NuMega Resonance Labs. ....	18
Quantex ....	15
Robertson Microlit Labs ....	5

### EQUIPMENT

Eastern Scientific Co. ....	10
-----------------------------	----

### GENERAL

ACS-NY/NoJ Sections ....	7
ACS-NY/NoJ Sections ....	18
ACS-NY/NoJ Sections ....	18
ACS-NY/NoJ Sections ....	27