

THE Indicator

NOVEMBER 2018

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THIS MONTH IN CHEMICAL HISTORY

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

In recent columns I mentioned my recent purchase of a textbook, "Kane's Chemistry edited by Draper" published in 1845. I also described the careers of these two eminent mid-19th. century scientists. In this column I will conclude the examination of chemistry in 1845 as described in the 700 pages of small print in this comprehensive text.

One of the more challenging questions of mid-19th. century chemistry was that of chemical affinity. Why do certain substances react together while others are completely indifferent? Beginning in the 18th. century chemists including Geoffroy and Bergman had compiled extensive lists of substances in order of their affinity – their reactivity – towards a standard reagent. Elaborate examinations had been made of many acid/base reactions; reactions of metals with acids etc. The compiled results were used to construct large Tables of Affinities which were as prominent in lecture rooms of the 18th. century as are Periodic Tables today. There was much discussion as to whether affinities were absolute, or affected by external parameters such as temperature and concentration. Berthollet was one of the team of scientists and archaeologists that was brought to Egypt by Napoleon early in the 19th. century after his campaign in that country. (This was the birth of modern Egyptology). Berthollet made an interesting observation on the shores of the saline Lake Natron. He found deposits of sodium carbonate. The rocks surrounding the lake were limestone, calcium carbonate. Berthollet knew that in the laboratory if solutions of sodium carbonate and calcium chloride were mixed a precipitate of calcium carbonate was formed. On the shore of Lake Natron he observed the reverse reaction; the calcium carbonate of the limestone had reacted with the sodium chloride of the saline lake water to produce an evaporated deposit of sodium carbonate on the lake shore. Berthollet looked for other examples of similar phenomena and in his book "Essai de Statique Chimique" he argued that affinity could not be absolute but might well depend on concentration. He had a glimmer of the Law of Mass Action, which was not announced for another 50 years, but his work was largely ignored.

Kane's book concedes that "the chemical action of two bodies does not arise simply from their chemical affinities, but results from the combined influences of heat, electricity, cohesion, and other physical agencies ...". The remarkable discoveries of electrochemistry, unknown, of course, to Berthollet when he wrote his Essai, had shown how electricity could overcome even the strongest affinities. There are many admiring references to Berthollet's work in Kane's chapter on affinity, but Berthollet's stance rejecting the Law of Definite Proportions (Constant Composition) – which deserves a whole column to itself – led to much of his other work being neglected.

Kane's "Elements of Chemistry" is a comprehensive text, and a third of the book covers subjects related to organic chemistry. Space and time do not permit a full examination of this material, but let me give you an idea of the subjects covered. They include what we would now call biochemistry. Thus we have chapters on carbohydrates and their decomposition by acids and alkalis; the alcoholic and acetic fermentations; essential oils, camphors, and resins; saponifiable fats and oils; organic acids (which do not pre-exist in plants [! HG]) including tartaric, citric, malic etc.; coloring matters; vegetable alkalis [alkaloids]; the decomposition of wood; and animal chemistry.

If the mid-19th. century student studied and mastered this text he (or, in a regrettably few cases she) would have a far-ranging understanding of contemporary chemistry, and be ready to move into a chemically-related profession.

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The monthly newsletter of the New York & North Jersey Sections of the American Chemical Society. Published jointly by the two sections.

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EDITORIAL DEADLINES

December	October 28
January 2019	November 28, 2018
February 2019	December 28, 2018
March	January 28, 2019
April	February 28
May	March 28
June	April 28
September	July 28
October	August 28
November	September 28

Visit Uswww.TheIndicator.org

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

November Calendar

NEW YORK SECTION

Thursday, November 1, 2018

Long Island Subsection

See page 9.

Tuesday, November 6, 2018

Chemical Marketing & Economics Group

See pages 9 and 10.

Monday-Wednesday, November 12-14, 2018

NY Section Society for Applied

Spectroscopy

See page 9.

Thursday, November 15, 2018

Westchester Chemical Society

See page 11.

also

Tuesday, December 4, 2018

Biochemical Topical Group

See page 12.

Wednesday, December 5, 2018

NY Section Society for Applied

Spectroscopy

See page 13.

Thursday, December 6, 2018

Long Island Subsection - Holiday Seminar

See page 13.

Thursday, December 6, 2018

Westchester Chemical Society

See page 14.



NORTH JERSEY SECTION

Monday, November 19, 2018

North Jersey Executive Meeting

See page 6.

Thursday, November 29, 2018

Organic Topical Group

See pages 6 and 7.

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**Deadline for items to be included in
the December 2018 issue of
The Indicator is
October 28, 2018**

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

Transcript for President George Washington's Thanksgiving Proclamation from October 3, 1789

By the President of the United States of America, a Proclamation.

Whereas it is the duty of all Nations to acknowledge the providence of Almighty God, to obey his will, to be grateful for his benefits, and humbly to implore his protection and favor — and whereas both Houses of Congress have by their joint Committee requested me to recommend to the People of the United States a day of public thanksgiving and prayer to be observed by acknowledging with grateful hearts the many signal favors of Almighty God especially by affording them an opportunity peaceably to establish a form of government for their safety and happiness.

Now therefore I do recommend and assign Thursday the 26th day of November next to be devoted by the People of these States to the service of that great and glorious Being, who is the beneficent Author of all the good that was, that is, or that will be— That we may then all unite in rendering unto him our sincere and humble thanks—for his kind care and protection of the People of this Country previous to their becoming a Nation—for the signal and manifold mercies, and the favorable interpositions of his Providence which we experienced in the course and conclusion of the late war—for the great degree of tranquility, union, and plenty, which we have since enjoyed—for the peaceable and rational manner, in which we have been enabled to establish constitutions of government for our safety and happiness, and particularly the national One now lately instituted—for the civil and religious liberty with which we are blessed; and the means we have of acquiring and diffusing useful knowledge; and in general for all the great and various favors which he hath been pleased to confer upon us.

and also that we may then unite in most humbly offering our prayers and supplications to the great Lord and Ruler of Nations and beseech him to pardon our national and other transgressions—to enable us all, whether in public or private stations, to perform our several and relative duties properly and punctually—to render our national government a blessing to all the people, by constantly being a Government of wise, just, and constitutional laws, discreetly and faithfully executed and obeyed—to protect and guide all Sovereigns and Nations (especially such as have shewn kindness unto us) and to bless them with good government, peace, and concord—To promote the knowledge and practice of true religion and virtue, and the encrease of science among them and us—and generally to grant unto all Mankind such a degree of temporal prosperity as he alone knows to be best.

Given under my hand at the City of New York the third day of October in the year of our Lord 1789.

North Jersey Meetings

<http://www.njacs.org>

NORTH JERSEY EXECUTIVE COMMITTEE MEETING

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. All ACS members are welcome to attend this meeting and to become more involved in section activities.

Date: Monday, November 19, 2018

Time: 6:30 PM

Place: Merck and Co. Inc.
2000 Galloping Hill Road
Kenilworth, NJ 07033

All are welcome but please let Amjad Ali (at 908-740 3407) know if you plan on attending so he can give security your name.

(See www.njacs.org for any changes.)

For reservations please call NJACS secretary Bettyann Howson (973) 822-2575 or email chemphun@gmail.com or register online at <http://www.njacs.org> prior to **Wednesday, November 14, 2018.**



NORTH JERSEY SECTION ORGANIC TOPICAL GROUP

Award for Creativity in Molecular Design and Synthesis

Date: Thursday November 29, 2018

(See flyer on page 7 for full details.)



STUDENTS 2 SCIENCE 2017/2018 "A YEAR IN REVIEW"

Dear STEM advocates,

Thank you for your continued support and for helping us reach our extraordinary potential as a national model in authentic STEM education and urban community development. It has been a year of tremendous growth at S2S, all geared towards preparing today's students for tomorrow's workforce and we could not have done it without you.

This Spring the S2S Newark Technology Center opened, an example of the kind of private-public partnership and community-based collaboration that can have a huge impact on school districts and communities in need. The goal of this partnership is to engage Newark students district-wide (over 32,000) in rigorous, problem-and project-based science learning.

The S2S Newark Technology Center will provide a broad range of programming, all aligned to Next Generation Science Standards:

- In-lab opportunities to conduct real-world experiments;
- District-wide V-Labs for in-class, virtual learning;
- Real world perspectives on 21st Century high demand STEM careers through interactions with mentors; and
- Professional development and technical assistance for teachers in STEM

We are dedicated towards creating an exciting culture of passion around science and working collaboratively to close the gap in STEM education.

We are proud of our work and present to you our recently released "Accomplishments Report, 2017-2018: A Year In Review".

Our best from the Laboratory,
Catherine "Kit" Nugent | Vice President,
External Engagement
cid:image003.png@01CF39EF.C85E8B80

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Take a look at our About Us Video:
<https://students2science.wistia.com/medias/hbxylzpw5o>.



CAREERS IN TRANSITION MEETINGS

There will be no Careers in Transition Meetings until further notice.

The ACS North Jersey Section Organic Topical Group Presents
Award for Creativity in Molecular Design and Synthesis

2018 Award Recipient
Dr. Ann Weber

Thursday, November 29, 2018

The Palace at Somerset Park, 333 Davidson Ave, Somerset, New Jersey



Dr. Ann Weber
 Kallyope Inc.

Keynote Presentation:

*Adventures in Drug
 Discovery*



Prof. Vy Dong
 University of
 California-Irvine

*A Few of My Favorite
 Rings: Catalysis with
 Metal-Hydrides*



Prof. Jon Ellman
 Yale University

*New Bond Connections
 by C-H Functionalization
 for the Convergent
 Synthesis of Bioactive
 Molecules*



Dr. Emma Parmee
 Merck Research
 Laboratories

*The Importance of
 Lead Identification in
 Drug Discovery*



Prof. Christina Woo
 Harvard University

*Discovery of small
 molecule binding site
 hotspots using photo-
 affinity labeling chemical
 proteomics*



Prof. Greg Fu
 California Institute of
 Technology

*Nucleophilic Substitution
 Reactions: A Radical
 Alternative to S_N1 and
 S_N2 Reactions*

Due to limited seating, registration and payment are required by November 19, 2018

Registration fee: Symposium (including breakfast and lunch) \$120.00. Students: \$45.00 (limited number of seats)

Sign in will begin at 8:00 am, the symposium at 9:00 am, and lunch at 12:00 pm.

For information and on-line registration, please visit our website: <http://www.njacs.org/organic.html>

Organizing Committee: Ken Fraunhofer (Chair, BMS), Steve Silverman (Past-Chair, Merck), Sue Zultanski (Chair-Elect, Merck), Enver Izgu (Rutgers University), Michael Smith (BMS), Yalan Xing (William Paterson University), Michael Zacuto (Celgene)

50th ANNIVERSARY PROJECT SEED CELEBRATION

At 256th American Chemical Society's National Meeting in Boston, MA, August 2018

High school chemistry students from North Jersey Section, along with students from Trenton and New York Sections, attended the all-day program for this special occasion culminating in sharing their summer research results at the Sci-Mix Poster Session. The program included a talk by Sir Francis Stoddard, 2016 Nobel Laureate in Chemistry, in which he shared his life's journey and how he came to support Project SEED. Three former SEED students gave incredibly inspirational talks about how their participation in Project SEED changed the trajectory of their lives. In addition to SEED students, donors and volunteers for Project SEED were honored. On their bus trip home students toured the campuses of Harvard University and MIT.



Project SEED Students from North Jersey and Trenton Sections, ACS.

(Photo courtesy of Bobbi Gorman)



Susan Fahrenholtz and Jeannette Brown received framed certificates for their service, dedication to the mission of Project SEED, and generous financial support of this program. Susan participated on a panel and Jeannette assisted in distribution of certificates to other donors and supporters. Bobbi Gorman was given a certificate for many years of participation as a mentor and coordinator. Each student was presented with a certificate as well.

Susan Fahrenholtz (front) Bobbi Gorman and Jeannette Brown (rear).

(Photo courtesy of Jeannette Brown)

New York Meetings

www.newyorkacs.org

ACS, NEW YORK SECTION BOARD OF DIRECTORS

MEETING DATES FOR 2018

The dates for the Board of Directors Meetings of the ACS New York Section for 2018 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 or by calling the Section office at (516) 883-7510.

The remaining board meeting will be held at St. John's University, 8000 Utopia Parkway, Queens, NY. The meeting room will be posted on the New York Section website at www.NewYorkACS.org. Dr. Joseph Serafin will chair all meetings. Refreshments will be available starting at 6:00 PM and the board meeting will start at exactly 6:30 PM.

The final Board Meeting date for 2018 is:

Friday, November 16, 2018

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

Clean Direct Use of Biomass for Thermal Applications

Speaker: Dr. Rebecca Trojanowski
Farmingdale State University
Brookhaven National Laboratory

Date: Thursday, November 1, 2018
Time: (Refreshments start at 5:30 PM
6:00 PM to 8:00 PM
Place: Queensborough Community
College, Room 112
222-05 56th Avenue
Queens NY 11364



CHEMICAL MARKETING & ECONOMICS GROUP

Date: Tuesday, November 6, 2018
(See flyer on page 10 for all details.)

NEW YORK SECTION SOCIETY FOR APPLIED SPECTROSCOPY

Announces Activities at EAS

The New York Section of the Society for Applied Spectroscopy is pleased to announce the following activities to be held in conjunction with the 2018 Eastern Analytical Symposium (EAS). We hope you will join us at these activities:

1) NYSAS sponsors the Gold Medal Award session held on Monday morning, November 12 at 8:30-11:15 AM and presents the Gold Medal to the Igor Lednev, University of Albany, the winner of the 2018 Gold Medal competition. Igor will present his award speech "Raman Spectroscopy for Forensic Purposes and Medical Diagnosis" at 8:30 AM

Other speakers at the award session are:

- Sanford Asher, University of Pittsburgh
- Laurence Nafie, Syracuse University
- Mihn Nguyen & Gregory Dutton, National Institute of Justice

2) NYSAS a sponsor of the 60th SAS Anniversary session on Monday afternoon, 1:00 – 3:15 PM. Three NYSAS representatives, Deborah Peru, Fran Adar and Howard Mark, will speak about the NYSAS Regional Section and current topics that are becoming increasingly important in modern spectroscopic practice: Raman Spectroscopy and Chemometrics.

3) NYSAS will have an exhibit booth at EAS. We welcome all to stop by and say Hello. We also welcome any spectroscopists who would like to experience being on the "other side" by sitting with us and greeting the members.

Dates: Eastern Analytical Symposium Monday-Wednesday, November 12-14, 2018

Times: 8:30 AM - 4:00 PM
Tuesday Mixer for all attendees
4:00 - 5:30 PM

Place: Crowne Plaza Princeton-
Conference Center
900 Scudders Mill Road
Plainsboro, NJ 08536



M&A Strategy: Delivering Engineered Solutions Globally

CME ACS NY Luncheon/Webcast • November 6, 2018 • Penn Club

Abstract

This meeting will feature one of the most successful private equity firms in its class, American Securities, and its portfolio company, Prince Corporation. American Securities plans to leverage their significant industry expertise and investment experience to accelerate Prince's business plan and growth.

The Houston-based Prince serves over 2,000 customers worldwide in a wide range of consumer and industrial markets by engineering, manufacturing and marketing performance-critical additives for construction, consumer products, electronics, agriculture, battery, automotive, oil & gas, and heavy equipment.

Through a global acquisition strategy, Prince has grown from a small, regional processor of minerals to become one of the world's largest manufacturers of specialty mineral additives and inorganic chemicals. Prince has a brilliant M&A track record in building a multinational manufacturing presence with locations across six continents having closed 20 add-on acquisitions since 2003.

Join us to hear what lies ahead for Prince Corporation and American Securities.



Willson Ropp is Chairman and President at Prince Corporation. He joined Prince in January 2004 as Chairman and President to head all of the company's management, development, and growth. Prior to joining Prince, he served as Senior VP of Business Development for Horeshead Industries. Prior to Horeshead he was active in the pharmaceutical, private equity, and investment banking industries. Willson holds a Bachelor of Arts Degree in Economics from Vanderbilt University and an MBA from the University of Pennsylvania, Wharton School.



Scott Wolff is Managing Director at American Securities. He joined the firm in 2002 and is currently Chairman of the Board of Chromaflo Technologies, Emerald Performance Materials, Henry Company, and Prince. Scott was previously a director of Royal Adhesives, SeaStar Solutions, Arizona Chemical, GT Technologies, General Chemical and Lakeside Energy. Prior to joining American Securities, Scott worked in the Mergers & Acquisitions Group at Merrill Lynch, focusing on a variety of industries, including consumer products, food, packaging and automotive. Scott holds an MBA from the University of Pennsylvania, Wharton School, and a BS in Finance from Indiana University, Kelley School of Business.



AMERICAN SECURITIES



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

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WESTCHESTER CHEMICAL SOCIETY

Note that the meeting tentatively scheduled for Tuesday, November 6, 2018 must be postponed until a Winter/Spring 2019 time frame.

Special Seminar – “Chemistry in Cameroon: Quality Control of Drugs”

Speaker: Rolande Hodel, Ph.D.
Adjunct Lecturer
Department of Chemistry
Westchester Community College
Valhalla, NY

Founder and President of
AIDSfreeAFRICA
Ossining, NY 10562
RRHodel@aol.com



Abstract:

AIDSfreeAFRICA's mission is to implement and advance pharmaceutical drug production in Sub-Saharan Africa. Although AIDSfreeAFRICA has been working in Cameroon since 2005, the organization has only recently decided to

tackle the problems that arise because of the general lack of basic laboratory services in the African nation.

AIDSfreeAFRICA is often approached and asked to take samples of pharmaceutical drugs to the USA and test them for their composition and/or quality. The import of pharmaceuticals in Cameroon is largely unregulated. Much of the imported drugs are brought into the country from Nigeria by salespeople who buy and sell drugs with little regard for the origin of the drugs.

Additionally, the salespeople are not educated on how to transport or store drugs properly. We suspect that the main problem with drug quality in Cameroon is degradation due to heat and humidity rather than the counterfeit drugs. However, without the ability to quality control drugs on a large scale, it is hard to say.

In this talk Dr. Hodel will discuss the efforts underway to bring quality control to Cameroon.

Biography: Dr. Rolande Hodel, co-chair of the Westchester Chemical Society, was born in Germany, is a US citizen, and is a legal resident of Cameroon. She received an M.S. in Inorganic Chemistry from the University of Kansas; and a Ph.D. in Organic Chemistry from the City University of New York. She has worked for companies such as BASF/Germany, Nanocrystals Technology/NY, Pharmaceutical Discovery Corporation/NY (today Mannkind/CT) and Emisphere Technologies/NY. She founded and is President of a non-profit, AIDSfreeAFRICA that manufactures pharmaceuticals in Cameroon. This talk is based on her more recent work in Cameroon. She is also an Adjunct Lecturer in Chemistry at the Westchester Community College. She is active in the American Chemical Society and its sections and has won various humanitarian awards. She is active in Rotary, Landmark Education, loves ballroom dancing, hikes, swims, skis and does yoga.

Date: Thursday, November 15, 2018

Times: Refreshments - 5:30 PM

Lecture - 6:00 PM

Place: Westchester Community College
Gateway Building Room 110
75 Grasslands Road
Valhalla, NY 10595

Cost: Free and Opened to the Public

For further information: contact Paul Dillon
E-Mail PaulWDillon2@hotmail.com
Phone 1-914-393-6940



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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.



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

FUTURE MEETING

Phagocytes in Health and Disease

Organizers: Dianne Cox, PhD
Albert Einstein College of
Medicine

John Hambor, PhD
Boehringer Ingelheim

Jim King, PhD
Boehringer Ingelheim

Sara Donnelly, PhD
The New York Academy
of Sciences

Sonya Dougal, PhD
The New York Academy
of Sciences

Speakers: Keynote Speaker
Miriam Merad, MD, PhD
Icahn School of Medicine
at Mount Sinai

Yasmine Belkaid, PhD
National Institute of Allergy
and Infectious Diseases

Nina Bhardwaj, MD, PhD
Icahn School of Medicine
at Mount Sinai

Marco Colonna, MD
Washington University
School of Medicine

Karim el Kasmí, MD, PhD
Boehringer Ingelheim

Daniel Mucida, PhD
The Rockefeller University

Carla Rothlin, PhD
Yale School of Medicine

Richard Zigmund, PhD
Case Western Reserve
University

This symposium will bring together leaders in diverse fields of immunology, cancer biology and tissue regeneration to highlight emerging roles for phagocytes in health and disease and develop new conceptual frameworks to integrate macrophage and dendritic cell functions with mammalian development, physiology and tissue biology.

Date: Tuesday, December 4, 2018

Time: 9:00 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 10007

Cost: This event has reduced-rate registration for ACS and NYAS members, at \$60 or \$25 (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 \$160 (corporate), \$105 (non-profit or academic) or \$70 (students and post-docs).

For more information and to register for the event, go to: www.nyas.org/phagocytes2018

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

NEW YORK SECTION — SOCIETY FOR APPLIED SPECTROSCOPY



FUTURE MEETING

New York SAS Section Announces the Forthcoming Meetings

The New York/New Jersey section of the Society for Applied Spectroscopy is pleased to announce the new meeting schedule coinciding with the next academic year, which began in September 2018. The following speakers will be presenting their work, as well as others for future meetings:

December 5, 2018 – Curtis Marcott, Ph.D - Special Tour Speaker Meeting. Title: "Perspectives on the Future of IR Spectroscopy: IR beyond the diffraction limit at submicron and nanoscale spatial resolutions via photo-thermal techniques"

Due to the required lead times for publication, we have to make this announcement before we have all the details of the meetings arranged. Everyone interested in attending a meeting will find the meeting details posted on the NYSAS website: www.nysas.org as soon as they become available. Please consult the website regularly for updates about the meeting details, as well as possible changes and information about future meetings. If you plan to attend a meeting, please email the NY/NJ SAS secretary at debperu@outlook.com beforehand so we can make arrangements for the expected number of people. Your name will also then be added to our e-mail list for future meeting announcements unless you request to not be added.

LONG ISLAND SUBSECTION

FUTURE MEETING

2018 Holiday Seminar — "The History and Chemistry Associated with the Use of Lethal Gas Weapons During World War I"

Speaker: Professor Paris Svoronos
Chemistry Department
Queensborough Community
College
Queens, NY

Abstract: The use of lethal gas during World War I (1914-1918) was the first case in history where a massive scale of this weapon was employed. The historical sequence as well as the description of the biological effect of the most commonly used gases during this war will be described.

Date: Thursday, December 6, 2018

Time: 6:00 PM – 8:00 PM

Place: Nassau Community College

CCB Room 251/252

Uniondale, NY



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WESTCHESTER CHEMICAL SOCIETY

FUTURE MEETINGS

Special Seminar – “Mitochondrial Reactive Oxygen Species Non-Toxic Integrative Anticancer Therapy Option for Solid Tumors Unresponsive to Traditional Therapy: Palladium/Lipoic Acid Complex”

Speaker: Edward J. Neren
Biomedical/Pharmaceutical
Consultant/Contractor
Neren & Co. / NerenPossible
Services
3 Belvedere Path
Suffern, NY 10901



Background:

Metal compounds (Platinum, etc.) have been investigated as potential cancer therapies; however, patient toxicity resulted. ROS (superoxide, hydrogen peroxide, hydroxyl ions) have

also been investigated. Dr. M. Garnett (1960-1990) encapsulated palladium in alpha lipoic acid and it was found to be non-toxic in treating mouse, cat, and dog tumors. Dr. R. Falk (1992) determined human safety and found patient improvement/remissions in gravely advanced cancer cases. Since then, more than 200 U.S. physicians have used the Palladium/Lipoic Acid Complex (PdLAC = PolyMVA) and Coenzyme Q10 (COQ10), as an integrative late stage cancer therapy.

Objective: To provide a non-toxic integrative therapy option and mechanism for physician monitored late stage cancer patients to determine if the PdLAC/CoQ10 is appropriate for the given patient.

Methodology: Cell line studies (NCI protocol apoptosis/48 hours: Brain [Glioblastoma/35.8%, Astrocytoma/38.3%], Lung [Non-Small Cell Carcinoma/37.5%], Breast [Adenocarcinoma/41.4%], Prostate [DU-145/22.7%]) were conducted by Calvert Laboratories. The PdLAC/CoQ10 is administered orally. PdLAC (water/Fat soluble) impacts both cancer and normal cells. CoQ10 (Ubiquinol) dose is four 100mg soft-gels/day. PdLAC dose is 8-12 teaspoons (in

juice) 4-times/day based on patient body weight (1-teaspoon/30 pounds). Positive clinical response (tumor growth [slowed/stopped/reduced] and improved patient energy/quality of life) is expected within three months. Patient progress is monitored with traditional clinical chemistries, tumor markers, and imaging. This therapy seeks a balance between therapy, nutrition, detoxification and energy enhancement.

Mechanism: The PdLAC enters cancer/normal cells and the mitochondrial outer membrane at the voltage dependent anion channel, and then through the inner membrane at the Complex 1. In cancer cells, the oxidative phosphorylation channel (OXPHOSC) produces low levels of adenosine triphosphate (ATP) due to deficient CoQ10. The deficient CoQ10 results in the PdLAC donating electrons generating excessive ROS.

In cancer cells (damaged OXPHOSC); excessive ROS builds up between the outer and inner mitochondrial membranes. When the outer membrane ruptures, ROS, Cytochrome C, and the Procaspases 2, 3, and 9 enter the cancer cell and anaerobic cytoplasm and apoptosis occurs. In normal cells, PdLAC (acting as an electrical shunt) donates electrons to the OXPHOSC producing more ATP/patient energy.

Results: James Forsythe, MD/HMD (2004-2012) conducted clinical outcome studies (500 Stage IV patients/5-year survival 33%). He reported improvement in quality of life issues directly proportional to overall response rate and that stable disease can be tolerated/transformed into a chronic livable condition.

Conclusion: Scientific and clinical documentation provides evidence that a non-toxic adjuvant integrative nutritional therapy option for advanced (Brain/Lung/Breast/Prostate) cancer patients, when traditional therapies are exhausted. Physician referrals to physicians with PdLAC/CoQ10 clinical experience are justified to determine if this therapy/monitoring is appropriate for a given patient. This therapy is not intended to circumvent traditional therapies, is administered orally as a nutritional (not a “drug or cure”), prescription is not required, 3-month cost \$3000, positive results within three months, is within good medical practice/medical ethics/FDA guidelines, and should meet physician/hospital/hospice legal obligations. The PdLAC/CoQ10 proposed mechanism focuses on the creation of excessive

ROS acting as a natural chemotherapy/anti-cancer agent when entering the cancer cell anaerobic cytoplasm. PdLAC/CoQ10 represents an application of mitochondrial medicine, with the potential of a patient tolerated stable/chronic livable disease condition. A PdLAC cell line study correlation with adult cell line studies warrants a protocol development adapting the adult therapy dosage to children's solid tumors (relapsed neuroblastomas/carcinomas/sarcomas/glioblastomas). This presentation provides a documented understanding and real option for end stage solid tumor patients who have been told by their oncologist:

1. That they have 3-6 months to get their affairs in order
2. That traditional therapy has now been exhausted;
3. That they will no longer return to this office and are given the name of a palliative care physician that will provide future needed care.

The speaker can provide contact information to palliative care physicians who will provide future needed care.

This presentation is based on Mr. Neren's presentation at the UMDF Mitochondrial Medicine 2018 Symposium, Nashville, TN, June 27-30, 2018 ("Mitochondrial Reactive Oxygen Species (ROS) as a Non-Toxic Adjuvant Integrative Anticancer Therapy Option for Adult Stage IV Solid Tumor Patients (Brain, Lung, Breast, and Prostate) When Traditional Therapy Options Have Been Exhausted: Palladium/Lipoic Acid Complex and Coenzyme Q10 Impacting the ROS Production and Apoptosis"). It was presented in memory of Bernard Statland, M.D., Ph.D., J.D. (1942-2004).

Biography: Mr. Edward J. Neren received his B.S. from Temple University, Philadelphia, PA. He was a Research Associate in the Department of Biochemistry at the Temple University School of Medicine and in the Department of Hematology at the Temple University Hospital. He subsequently worked at the Technicon Instruments Corp. (now Siemens Healthineers), the BMC Corporation, the Garnett McKeen Laboratories and the American Association for Clinical Chemistry (AACC). In 2008, he became president of Balneology Products, Inc. He also founded Neren & Co./NerenPossible Services, to which he currently devotes his time. His contact information is:

- Phone: 1-845-357-6039
- E-Mail: eneren@optonline.net

Date: Thursday, December 6, 2018

Times: Refreshments - 5:30 PM
Lecture - 6:00 PM

Place: Westchester Community College
Gateway Building Room 110
75 Grasslands Road
Valhalla, NY 10595

Cost: Free and Opened to the Public

For further information: contact Paul Dillon
E-Mail PaulWDillon2@hotmail.com
Phone 1-914-393-6940

Call for Candidates

CALL FOR CANDIDATES TO PARTICIPATE IN THE 2019 ELECTIONS OF THE NEW YORK SECTION

The Nominating Committee of the New York Section will meet on November 19, 2018 to select candidates for the 2019 elections.

Positions available are:

Chair-elect for 2020
Treasurer for 2020 - 2021
Directors-at-Large for 2020
Councilors and Alternate Councilors for 2020 – 2022

If a member of the New York Section wishes to run for office or to suggest a member for consideration by the Nominating Committee, please write to the American Chemical Society, New York Section, Inc., St. John's University, Department of Chemistry, 8000 Utopia Parkway, Jamaica, NY 11439 or send an e-mail to the New York Section office at atnjesper1@optonline.net.
Please respond by November 15.



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NEW YORK—NEW JERSEY CHAPTER OF THE SOCIETY FOR APPLIED SPECTROSCOPY (NYSAS)

Development of ‘Fit-for-Purpose’ Near Infrared Spectroscopic Methods for Lyophilized Biopharmaceuticals

The September meeting of the New York–New Jersey Chapter of the Society for Applied Spectroscopy (NYSAS) was held on September 13 in at the new Horiba Optical Spectroscopy center in Piscataway, NJ. Our friends and and long time SAS supporters at Horiba graciously offered to host our meeting at their new facility in their training room. Twenty three people attended the event, which is our largest turn out so far in 2018 thanks to a wonderful venue location and interesting topic.



The new HORIBA New Jersey Optical Spectroscopy Center. 20 Knightsbridge Road, Piscataway, New Jersey 08854. Horiba NJ is known for its focus on biotechnology, university collaboration, and pharmaceutical device manufacturing.

The speaker John Wasylyk, Ph.D. is a Senior Principal Scientist at Bristol-Myers Squibb Company. He leads a spectroscopy group who are focused on developing non-invasive, sustainable methods designed to enhance productivity and generate process knowledge. The spectroscopy-based methods have been deployed at various BMS sites and encompass both small molecules and biologics. In addition, the group provides hands-on training and oversees open-access spectrometers for chemists and engineers.

In this talk, John focused on the application of process analytical methods in the manufacturing of biopharmaceuticals. Traditional methods to measure water in lyophilized products consist of removal of the bulk water content by sublimation and desorption. Quantification of the remaining water in freeze-dried product is typically performed by Karl Fischer titration. The utilization of Near Infrared for water determination is a safer, fast, and non-destructive method that has been widely used in a variety of industrial applications. John's group takes the fit for purpose approach in method development utilizing all the spectroscopy methods available. He points out that his group focuses on long term sustainable solutions like spectroscopy because the methods 1) do not require sample preparation 2) don't use toxic chemicals which are inherently safer for the employees, and 3) are more environmentally friendly (i.e no chemical waste). Spectroscopic methods develop during early research stages are subsequently used in the middle and late stage development of BMS biopharmaceuticals.

The meeting was attended by industrial partners, consultants, university professors and several retirees from the world of spectroscopy, microscopy, and biopharma. At the end of the presentation and post Q&A session, John was presented with a custom designed prism as a token of thanks from the group.

More information about the chapter and the schedule of meetings can be found at www.nysas.org.

NICHOLS MEDALIST FOR 2019

Professor Vicki H. Grassian of the University of California at San Diego is the William H. Nichols Medalist for 2019.

The New York Section is pleased to announce that the Nichols Award Jury chose Professor Vicki H. Grassian to be the William H. Nichols Medalist for 2019. She is a Distinguished Professor at the University of California, San Diego in the Department of NanoEngineering, Department of Chemistry and Biochemistry and Scripps Institution of Oceanography. Professor Grassian is being honored for "Outstanding Contributions to Interfacial Environmental Chemistry." The Nichols Medal Award will be presented at the Nichols award dinner that follows the Distinguished Symposium.

The Nichols Distinguished Symposium and Medal Award Dinner are planned for Friday, April 12, 2019 at the Crowne Plaza Hotel, 66 Hale Avenue, White Plains, NY. The symposium title is "Interfacial and Multiphase Chemistry Relevant to the Environment." It will feature four internationally known chemists: Dr. Angela Goodman of the U. S. Department of Energy's National Energy Technology Laboratory; Professor Howard Fairbrother of John Hopkins University;

Professor Veronica Vaida of the University of Colorado at Boulder and Professor Grassian, Nichols Medalist. Professor Sarah Larsen of the University of Houston will introduce Professor Grassian at the Nichols Award Dinner.

Professor Ruben Savizky of The Cooper Union, Chair-elect of the ACS New York Section in 2019, will conduct the Distinguished Symposium, and Professor Justyna Widera-Kalinowski of Adelphi University, Chair of the New York Section in 2019, will host the Medal Award Banquet and present the Nichols Gold Medal Award to Professor Grassian at the dinner.

The entire program and reservation form will be published in the February, March and April Indicators and on the New York Section website at <http://www.NewYorkACS.org>.



WESTCHESTER CHEMICAL SOCIETY

One of the co-chairs of the Westchester Chemical Society, Paul Dillon's, granddaughter, Alexandra Reinecke, has just begun her college studies at the University of California, Berkeley. She has sent him a "chemical" souvenir of the school. See picture at right.

Paul Dillon – (Photo courtesy of Joyce Reinecke)



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 2Science (S2S) is seeking volunteers to support its V-Lab program. S2S has a series of elementary, middle, and high school experiments that run in various schools across New Jersey. Members are especially needed to mentor students in participating schools to help with experiments. It's great fun, a wonderful way to give back, and only requires 1-2 hours of your time. Experiments include CO₂ to the Rescue, Curious Crystals, Mystery of M&Ms, Thermochemistry: *Exothermic and Endothermic Chemical Reactions*, and *Glow it Up: The Chemistry of Luminol*. All are age-appropriate and volunteers are provided with instructions on how to support in the classroom prior to your scheduled volunteer day.

For more information, contact Cyndi Roberson, Director of Corporate Relations, at (973) 947-4880 ext. 516 or visit the website to register for the upcoming school year: www.students2science.org.



SEMINAR SPEAKERS WANTED

The New York Section of the ACS is in search of speakers that we can add to our Speakers Bureau database of interested local area speakers who are available for Section-wide seminars and symposia. If you have an area of research or interest that would provide an interesting talk appropriate for our Section members, and would like to be included in our Speakers Bureau, please contact the New York Section Office at (516) 883-7510 or send an email to njesper1@optonline.net with the following information that will be posted on the Section's website: your name, affiliation, a title, and 5-6 words briefly summarizing your area of specialty. We look forward to hearing from you about topics that you wish to share with our other members!

Call for Applications

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 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 or (908) 239-1515

Call for Applications

OPEN-NJ Scholarship Program Department of Chemistry and Biochemistry



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UNIVERSITY

Receive one of the scholarships (\$10,000/year for 2 or 3 years) to enter one of the following programs at Montclair State University

- *Masters in Pharmaceutical Biochemistry*
- *Masters in Chemistry*
- *Masters in Chemistry with a Concentration in Biochemistry*

This program is open for the following majors: Biochemistry, Chemistry, Physics, Molecular Biology, Biology, Environmental Sciences, and related degrees (B.A., B.S.).

Summer Research Stipends available for highly qualified students.

Information: <https://www.montclair.edu/csam/open-nj/>

<https://www.montclair.edu/graduate/news/article.php?ArticleID=16127>

Requirements for Program

- Minimum overall 3.0 GPA (B.S. or B.A. degree)
- Completed General Chemistry I (with lab), General Chemistry II (with lab), Organic Chemistry I (with lab), Organic Chemistry II, Calculus I and II and a year of Physics.
- US citizen, national, admitted refugee or permanent resident
- Enrolling full time in an MSU Department of Chemistry and Biochemistry M.S. program
- Financial aid eligible as determined by the Office of Financial Aid.
- Committed to participating in all OPEN-NJ meetings including networking events.

Apply

Apply to the Graduate Program at Montclair State University (<http://www.montclair.edu/graduate/>) AND email Dr. Nina Goodey (goodeyn@mail.montclair.edu) to indicate interest in the OPEN-NJ Scholarship Program. The OPEN-NJ Selection Committee will use your graduate school application.

Questions?

Please, email Dr. Nina Goodey (goodeyn@mail.montclair.edu).



Call for Nominations

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 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. Neil Jespersen, at jespersn@stjohns.edu.



WESTCHESTER CHEMICAL SOCIETY DISTINGUISHED SCIENTIST AWARD 2019

The Westchester Chemical Society is accepting nominations for the "WCS Distinguished Scientist Award 2019". Scientists who live or work in Westchester or the Bronx qualify. The awardee is expected to attend the Awards Dinner (April/May timeframe) and to present aspects of his or her work. Self-nominations are acceptable. Nominations are not carried over from previous years. New and possibly updated nominations should be submitted. Please send a cover letter stating why your nominee should receive the award along with the nominee's resume **by January 31, 2019** to:

Dr. Paul Dillon at PaulWDillon2@hotmail.com or
67 Matthes Road, Briarcliff Manor, NY 10510

or to: Dr. Peter Corfield at
pwrc@earthlink.com

2019 GOLD MEDAL AWARD: SOCIETY FOR APPLIED SPECTROSCOPY, NEW YORK SECTION

Nominations are being sought for the 2019 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 2019 Eastern Analytical Symposium. A nominating letter describing the nominee's specific accomplishments should be submitted along with a biographical sketch **by January 15, 2019**.

Please e-mail all materials as well as questions and inquiries to Dana Garcia at dana.garcia@arkema.com.



KAVLI EMERGING LEADER ORLANDO

The Kavli Foundation has agreed to sponsor The Kavli Foundation Emerging Leader in Chemistry Lecture through 2025 featuring two lectures at each ACS national meeting. The Kavli Foundation Emerging Leader in Chemistry Lecture is awarded to an outstanding chemical scientist who is less than 10 years past receipt of his or her Ph.D. and will be under 40 years of age as of Monday, April 1, 2019, the date of the lecture. The candidate is a distinguished younger scientist who is highly regarded by his or her peers for significant contributions to an area of chemistry or related multidisciplinary area of chemistry.

The Multidisciplinary Program Planning Group (MPPG) is pleased to host the lecture at the Spring ACS National Meeting in Orlando, FL. We invite ACS Divisions and Committees to submit candidate nominations.

Please reach out to your members to consider sending recommendations for this award. All nominations must be submitted by the Division or Committee, after approval from the respective Chair, and using one of the forms below.

Submission Form

Save and return form – Requires registration

Nominations must be received by October 31, 2018 for consideration.

Recommendations not chosen for previous meetings may be resubmitted at the Division or Committee's discretion as long as the candidate meets the nomination criteria for the Orlando meeting.

Sincerely,

Amanda Bryant-Friedrich, MPPG Chair

www.acs.org/mppg

ACS Network Group

Technical Division Programming Forum

American Chemical Society

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Washington, DC 20036

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National

PROGRAM IN A BOX

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Voyage to Mars: Red Planet Chemistry

Gather a group on Mole Day to celebrate National Chemistry Week as host Sam Lemonick of Chemical & Engineering News guides you and your attendees through the chemistry and challenges of long-term space travel as well as the materials, biochemistry, and astrochemistry that will make a manned mission to Mars possible.

Register your group by Friday, September 28th to receive your FREE box** of raffle prizes, handouts, and other hosting materials to make this your easiest event of the Fall!

What You Will Learn

How the Curiosity Rover has revealed the geologic history of Mars, and how this knowledge can help inform us about the environments that existed on the surface of Mars, and even Earth, during the time when life evolved

The unique challenges of long term space

travel and a profile of the current work to ensure that humans can survive the voyage

What is the current state recycle waste research that will help sustain valuable materials for astronauts during long deep-space missions using biopharmaceutical production

*This event is aimed at collegiate-level students and above, though it may be appropriate for certain high school groups. Contact the ACS PIB team at multimedia@acs.org if you have any questions about the event content.

Meet the Experts

Kirsten Siebach

Rice University

Brett A. McGuire

National Radio Astronomy Observatory

Mark Blenner

Clemson University

Mary Ann Meador

NASA Glenn Research Center

Michael Meador

NASA's Game Changing Technologies
Program

Susanna Widicus-Weaver

Emory University

What is ACS Program-in-a-Box?

ACS Program-in-a-Box is the easiest event you'll ever host because "it's all in the box." With very little effort (acquire the space and gather the crowd), you can host an energetic science event that engages chemistry students and early career chemists.

Register now to receive a physical box of materials and resources delivered directly to you at no cost and a link to join the live interactive video on October 23rd at 6:45pm ET.** Learn more and sign up at www.acs.org/PIB

**Physical boxes are an exclusive benefit for ACS-affiliated groups (Student Chapters, ChemClubs, Local Sections, etc...) All other groups will receive a digital download of box materials. Physical boxes can only be shipped to non-P.O. Box addresses in the United States, Mexico, Canada, and US Territories. If you have any questions about your group's eligibility for receiving a box, please contact us at multimedia@acs.org.