THE Indicator

JANUARY 2019 Vol. 100 • No. 1 ISSN0019-6924

Dr. Amjad Ali

2019 North Jersey Section Chair

See Chair's Message on page 5.

www.theindicator.org
www.njacs.org www.newyorkacs.org

THIS MONTH IN CHEMICAL HISTORY

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

In my last column I mentioned that a March 1955 copy of *"The Indicator"* was given to me by a colleague who found it while clearing out his garage! In this column I will conclude a discussion of how this find gave me, and I hope my readers, insight into the chemical world of the Northeast U.S. in that now remote time.

The Editorial page is titled "Our Waste of Human Resources" and, true to its Cold War date, is given over to a comparison between the proportions of Russian and U.S. students entering scientific fields. Given that the Russian statistics may be exaggerated, the differences are still striking. In Russia, since 1917 (the date of the revolution) the number of institutions of higher education has increased tenfold; the number of students in them has grown from about 100,000 to 1,500,000. In the same period higher education institutions in the U.S. have doubled in number and student numbers have increased five-fold. However the proportion of science graduates is over 40% in Russia, including many women; in the U.S. it is only 30% with few women.

The gap in engineering graduates is equally arresting. From 30,000 graduates in Russia in 1951 the number is planned to increase to 40,000 by 1955. In the U.S., in contrast, numbers of engineering graduates have been falling: from 52,000 in 1950 to 17,000 in 1952! A slow rise in then expected to 34,000 in 1957. This "waste of human resources has been our greatest extravagance" and, combined with declining sources of needed raw materials points to a dark picture for the future. My readers can put their own assessments on the accuracy of these predictions.

In addition to the presentation of the William H. Nichols medal to Wendell M. Latimer this issue of *"The Indicator"* mentions a number of other seminars and symposia to be given to different groups of chemists in the Section. The "Metropolitan Microchemical Society" holds its annual symposium at the American Museum of Natural History presenting talks by, among others, Frederick D. Rossini of Carnegie Tech. on "Petroleum Hydrocarbons"; and Charles Maresh of American Cyanamid on "Physical Constants with the Microscope". The Analytical Group will hear a talk by Dr. G. Naimark of White Laboratories on "Industrial Analytical Laboratory Record Keeping Systems". You will be aware that in 1955 digital computers were still in their infancy, and were not yet widely available in either academia or industry. (A personal note: my wife, Marie, joined the staff of the Cornell Computing Center at just about this period to work with their brand new IBM machine that used wired programs; punched card input; and had about 20K of RAM).

The Organic Group of the New York Section was to hear a talk by Nelson J. Leonard of the University of Illinois, in the Hotel New Yorker, on "1,2-Diketones and Tropolones." Professor Leonard, a distinguished organic chemist, was Editor of *"Organic Syntheses"* and Chair-elect of the Division of Organic Chemistry of the ACS. More organic chemistry for the Westchester Chemical Society, which was to hear E.C. Taylor of Princeton discuss "The Chemistry of Aromatic N-Oxides"; and for the Organic Chemists' Discussion Group of the North Jersey Section with a presentation by Carl Djerassi, then at Wayne University, on "Chemistry of Some Natural Products from Latin American Plants".

Chemical education was the topic of a Symposium of the Staten Island Subsection. Speakers from High Schools, Colleges, and Industry would review the teaching of chemistry at all levels to understand the problems involved; what solutions to those problems were emerging; why too few students were choosing chemistry as a career; and how chemical education could best equip students for careers in chemical industry. Some situations seem always to be with us.

Finally a word about "media". Station WFUV, FM 90.7, broadcast weekly on Wednesdays from 7:15 to 7:30 p.m. (prime time!) "Everybody's Chemistry", a series of interviews conducted by Dr. Frederick Leonard with experts from pharmaceutical companies and medical research institutes on health-related issues. An eye-catching title was "The Biochemistry of Baldness"; other ailments covered on the programs included arthritis, pain relief, and restoration of the rhythm of the heart.

This look at the vigor of the chemical enterprise in the Eastern United States has left me impressed as to the range and scope of the offerings available to ACS members and others in that region. It has inspired me to look for other local section journals of the past to evaluate their activities. If any of my readers have copies to offer, I would appreciate hearing from them. My email address appears at the head of this article.

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THE Indicator

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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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, 139 Hudson Avenue, 1st Floor, Totowa, NJ 07512.

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**. Non-members are invited to read it online. Members should register their email addresses at **www.acs.org/editmyprofile**.

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

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Deadline for items to be included in the February 2019 issue of *The Indicator is*

December 28, 2018

***The Indicator* is posted to the web around the 15th of the previous month at**

www.TheIndicator.org

North Jersey Section's 2019 Chair's Message

Fellow members of the North Jersey ACS,

It is a great pleasure and honor for me to serve as the Chair of the North Jersey Section of the ACS for 2019. I would like to thank the officers and volunteers in North Jersey who have made our section one of the most dynamic sections within the ACS. I look forward to working with this dedicated and creative group to continue to promote the NJACS mission of "Enhancing the lives of its members and the community through the transforming power of chemistry".

The North Jersey Section is the home of many diverse topical groups and committees that are comprised of talented scientists in the interdisciplinary fields of chemistry including the Mass Spectrometry Discussion Group, Drug Metabolism Discussion Group, Chromatography Group, NMR Discussion Group, Organic Topical Group, Teacher Affiliates, Women Chemists Committee (WCC), Younger Chemists Committee (YCC), Senior Chemists Committee (SCC) and Careers in Transition Committee. These groups offer exciting seminars, symposia, and events throughout the year; which provide unique opportunities for continuous education and networking. The section will also host the Leo Hendrik Baekeland Award Symposium in late 2019.

The North Jersey Section will continue with its numerous public outreach programs including Project SEED, National Chemistry Week, and the Chemistry Olympiad. Additionally, this section has strengthened its partnership with Students 2 Science, a non-profit corporation that inspires, motivates, and educates primarily middle and high school students to pursue careers in Science, Technology, Engineering and Math (STEM subjects). We will continue with the popular ChemExpo as well as with Community Nights at the Liberty Science Center (LSC) and hope to expand joint undertakings both with LSC and the Edison Museum, which we helped establish as a National Historic Chemical Landmark in 2014 and where we participate in their Edison Day. Another important activity is the New Jersey Chemistry Olympics hosted and run by NJIT. In addition, we plan to introduce 'Science Café's' to the community as a new public outreach activity in 2019.

I have been an active member of the North Jersey section of the ACS for over 15 years, revitalizing the Organic Topical Group (OTG) and serving as Chair of the group twice over the last several years. I am an ACS Fellow as well as the Merck representative for the ACS Scholars program, Project SEED, the Hershberg National ACS award and have served as alternate industrial councilor for the ACS MEDI division. I am a supporter and have served as liaison for the Merck WCC program, which currently sponsors a number of outstanding women chemists in academia. The Section has recently developed its Strategic Plan and I am thrilled to be able to initiate this plan during my tenure as Chair. One of our goals will be to promote membership and engagement in NJACS through the increased use of social media tools such as LinkedIn, Twitter etc. I believe by doing so we will be enhancing the lives of our members and the community through the transforming power of Chemistry. As Chair, I will use my experiences and passion for Chemistry to assure the continued success of the North Jersey ACS. I would like to thank you for your continued support.

Amjad Ali, 2019 Chair, North Jersey Section ACS
amjad_ali@merck.com

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, January 28, 2019**
Time: 6:30 - 8:30 PM
Place: Merck & 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.)

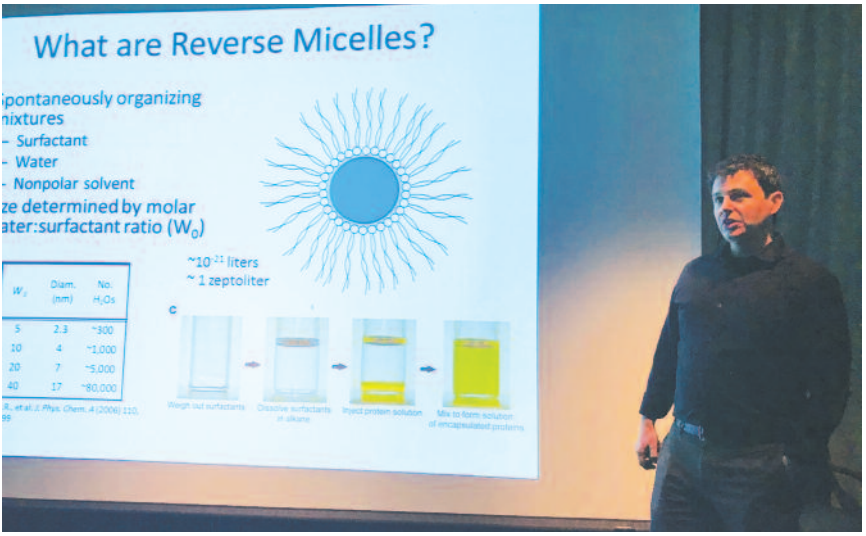
For reservations please call NJACS secretary Bettyann Howson (973) 822-2575 or email **chemphun@gmail.com** or register online at **http://www.njacs.org** prior to **Wednesday, January 23, 2019**.

NMR TOPICAL GROUP

On Tuesday, November 13th at Rutgers University, the NMR Topical Group hosted its closing meeting of 2018. Nathaniel Nucci, Assistant Professor of Rowan University, joined the group as the guest speaker following the buffet dinner. Dr. Nucci presented highlights of his graduate and postdoctoral work from the Wand Lab at the University of Pennsylvania along with an overview of the undergraduate research projects he is leading at Rowan. From protein dynamics to quantum dots, the reverse micelle technology forms the basis of Nathaniel's research interests. Look for great things coming from the Nucci Lab's research projects and the talented undergraduates in training!

It has been my pleasure to lead the NMR Topical Group in 2018. Expect to receive communications from incoming 2019 Chair, Dr. Qi Gao, regarding upcoming events following the holidays.

Wine, dinner, and networking were enjoyed by attendees to kick off the final NMR TG meeting of 2018.



November guest speaker Assistant Professor Nathaniel Nucci elaborates on the reverse micelle technology.

(Photos courtesy of Mary Harner)

STRATEGIC PLANNING RETREAT

To strengthen its connection to section members the North Jersey ACS executive board held an ACS sponsored Strategic Planning Retreat the weekend of November 17 & 18, 2018, at FDU-Madison. The newly developed strategic plan established 3 goals:

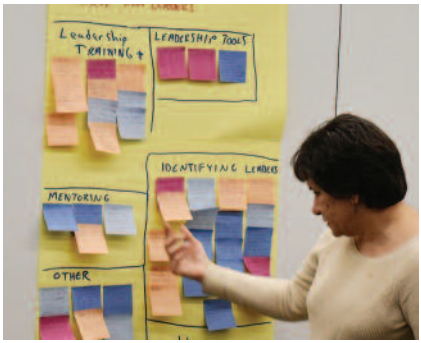
1) Increase awareness, understanding, and value of chemistry to appeal to a greater audience through outreach activities.
2) Promote engagement and membership in North Jersey ACS.
3) Enhance the leadership pool across North Jersey ACS.

Facilitators Larry Krannich and Wayne Jones, members of the ACS Leadership Advisory Board, guided sixteen participants through the process of developing and championing strategies to accomplish these goals. Progress will be monitored by the 2019 past-chair, chair and chair-elect over the next 3 years.

(All photos are courtesy of Tom Krone.)

Facilitator Larry Krannich reviewing the critical success factors for goal #1.

Facilitator Wayne Jones describing the progression of a strategic plan.



Jackie Erickson shows the grouping of key factors for goal #3.

Participants enjoy a light-hearted moment during the strategy presentation. L to R: Jeannette Brown, Alan Cooper, Bettyann Howson and Les McQuire.

Small groups worked to identify key factors important for goal #1. L to R: Diane Krone, Jasmine Lu, Jackie Erickson, Miriam Gulotta, Jeannette Brown.

Retreat participants — Standing: L to R: Larry Krannich, Monica Sekharan, Sandra Keyser, Mirlinda Biba, Jeannette Brown, Alan Cooper, Diane Krone, Luciano Mueller, Mohammed Elshaer, Bobbi Gorman, Bill Suits, Les McQuire, Jasmine Lu, Wayne Jones; Seated: L to R: Amjad Ali, Jackie Erickson, Miriam Gulotta, Bettyann Howson, Cecelia Marzabadi.

Newly elected councilors and chair-elect for 2019 — L to R: Monica Sekharan, Miriam Gulotta, Diane Krone, Cecelia Marzabadi (Missing: Michael Miller).

Participants sharing a delightful meal together at a local restaurant following a long day of work. L to R: Luciano Mueller, Bettyann Howson, Miriam Gulotta, Bill Suits, Les McQuire, Jasmine Lu, Jeannette Brown, Diane Krone, Larry Krannich, Bobbi Gorman, Sandra Keyser, Wayne Jones, Jackie Erickson.

Press Release

ACS Chemistry for Life®

North Jersey Section American Chemical Society

Luciano Mueller Honored Fellow of AAAS

Dr. Luciano Mueller, a scientific advisor of NJ-ACS NMR Topical Group, has been elected a 2018 Fellow of the American Association for the Advancement of Science (AAAS), in the field of Chemistry.

The AAAS cited Mueller for "seminal contributions in biophysical chemistry and pharmaceutical research, including broadly used proton-detected heteronuclear NMR methods for studying protein structure, dynamics, and function".

The 2018 AAAS Fellows will be recognized on February 16th, 2019 at AAAS Annual Meeting in Washington, D.C.

Luciano Mueller
Scientific Advisor of NJACS
NMR Topical Group
Senior Research Fellow at
Britsol-Myers Squibb

Dr. Mueller has done pioneering research in a number of classical and new fields in NMR methodology development in biophysical and pharmaceutical chemistry. He published the first description of ^{1}H-detected HMQC spectroscopy for indirect observation of nuclei with weak equilibrium polarization via polarization transfer from, and detection on, high polarization bound protons in 1979. This experiment and its various permutations, forms the basis of all modern multidimensional NMR experiments, including triple-resonance NMR, used in the analysis of biomolecular structure, function, and dynamics. Mueller's innovative work was truly transformative to the field of biomolecular NMR and molecular biophysics. At Bristol Meyers Squibb (BMS), Mueller applied diverse NMR technologies to pharmaceutically-important proteins and nucleic acids, and contributed to the creation of several medicines which are in the clinic today. The innovative and robust technologies Mueller has developed have had significant and broad impact on the fields of biomolecular NMR and biophysical chemistry, and are used in a wide range of applications in both academic and industrial research programs.

Dr. Mueller has served as coordinator and senior advisor of the New Jersey American Chemical Society (NJACS) NMR Topical Group for the past several years. In this role, Mueller brings together academic and industrial scientists in the central New Jersey region around the theme of biological chemistry, and specifically NMR sciences, in monthly evening meetings. Mueller also organizes annual symposia of the NJACS featuring 5 - 8 internationally-recognized experts in NMR. He has also organized the Baekeland Award Symposium in his capacity as the chair-elect of the North Jersey Section of the American Chemical Society which he served as the chair person in 2016. For many industrial scientists in central New Jersey, the NJACS is a unique and critical venue for developing their careers around non-proprietary discussions with colleagues from nearby companies. Mueller has also mentored several junior scientists, and woman scientists, by guiding them as chairs in organizing annual symposia and other leadership roles in the NJACS. In addition to mentoring scientists at work, Dr. Mueller also helped budding young scientists with experiments during Edison Day at the Edison Museum in West Orange. He was among the NJACS leaders who participated in the Strategic Planning Retreat in November.

AMERICAN CHEMICAL SOCIETY'S NEW YORK SECTION 2019 SECTION-WIDE CONFERENCE

PLEASE REGISTER AT
http://www.newyorkacs.org/meetings/sectionwide/sectionwide2019.php

Date: **SATURDAY, JANUARY 19, 2019 FREE TO ALL**
Times: 9:30AM – 1:00PM
Place: CUNY - QUEENSBOROUGH COMMUNITY COLLEGE, NY – OAKLAND ROOM
222-05 56th Avenue, Bayside, NY 11364
Directions to QCC: **http://www.qcc.cuny.edu/about/getting-here.html**
Campus Map: **http://www.qcc.cuny.edu/about/campus-map.html**

PROGRAM

9:30 AM **ARRIVAL AND REFRESHMENTS.**

10:00 AM **GREETINGS FROM THE ACS NEW YORK SECTION 2019 CHAIR** — **Dr. Justyna Widera-Kalinowska**, Adelphi University

10:10 AM **AWARD PRESENTATIONS.**
Service Plaque and Pin to the 2018 New York Section Chair — **Dr. Joseph M. Serafin**, St. John's University

New York Section Outstanding Service Award for 2018 — **Dr. Paul Sideris**, CUNY - Queensborough Community College

Nichols Foundation H.S. Chemistry Teacher Award for 2018 — **Dr. Stephanie O'Brien**, Commack High School

10:30 AM **PRESENTATION OF CANDIDATES FOR THE 2019 ELECTIONS.** — **Dr. Ruben M. Savizky**, 2019 Chair Elect, ACS New York Section, The Cooper Union

10:45 AM **KEYNOTE SPEAKER: MONONA ROSSOL M.S., M.F.A., INDUSTRIAL HYGENIST, PRESIDENT: ARTS, CRAFTS & THEATER SAFETY, INC.**

"Chemical Safety Issues in the Film Industry." Chemists Are Needed EVERYWHERE: Especially in the Entertainment Industry.

People in theater, film and television work with chemicals every day. As a child, Monona worked in variety entertainment (Vaudeville), and saw chemicals used in magic acts that caused things to flash into flame, disappear or change color. Today she deals with chemicals ranging from those used to paint faces (makeup) or to paint scenery, to explosive chemicals used to blow up cars. The program will start with a short video showing how pyrotechnic chemicals are used to simulate bullets hitting walls or people and then she'll discuss a host of other chemical issues in the entertainment industry.

11:45 AM **COFFEE BREAK.** There will be poster presentations by the New York Section Project SEED Students.

12:00 PM **ACS, NEW YORK SECTION COMMITTEE PLANNING SESSIONS FOR 2019.**

Educational Activities: (Chemagination, Chemists Celebrate Earth Day, Continuing Education, High School Chemistry Olympiad, National Chemistry Week, Nichols Foundation Teacher Award, Project SEED, Student Membership)
Chair: Dr. Alison G. Hyslop

Member Affairs: (ACS Fellows, Awards, Employment and Professional Relations, History of the New York Section, *Indicator,* Membership, Outstanding Service Award)
Chairs: Dr. Ralph Stephani and Dr. Joseph Serafin

Program Review: (Subsection and Topical Discussion Group Chairs)
Chair: Dr. Anne T. O'Brien

Public Affairs: (Academe and Industrial Relations, Environmental Chemistry, Fund Raising, Government Affairs, Information Technology, Public Relations, Speakers Bureau)
Chair: Dr. Robert P. Nolan

12:45 PM **REPORTS FROM THE CHAIRS OF THE COMMITTEE PLANNING SESSIONS.**

1:00 PM **CONCLUSION OF THE MEETING.** Join with colleagues for lunch at a local restaurant.

To inquire about the Section-wide Conference, please call the New York Section Office at (516) 883-7510 or e-mail Marilyn Jespersen, Office Administrator, at: **njesper1@optonline.net.**

New York Meetings

www.newyorkacs.org

ACS, NEW YORK SECTION BOARD OF DIRECTORS

MEETING DATES FOR 2019

The dates for the Board of Directors Meetings of the ACS New York Section for 2019 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 should 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.

Dates and locations of the meetings are posted below and on the New York Section website at **www.NewYorkACS.org**. Prof. Justyna Widera-Kalinowska will chair all meetings. Refreshments will be available starting at 6:00 PM and the board meetings will start at exactly 6:30 PM.

The Board Meeting dates and locations for 2019 are:

Saturday, January 19, 2019 (Section Wide Conference), Queensborough Community College, NY

Friday, February 15, 2019 (Electronic Board of Directors Meeting), Adelphi University, NY

Friday, March 8, 2019 (Board of Directors Meeting), Adelphi University, NY

Friday, April 12, 2019 (Nichols Symposium and Dinner), Crowne Plaza, White Plains, NY)

Friday, June 7, 2019 (Board of Directors Meeting), St. Johns University, NY

Friday, September 13, 2019 (Board of Directors Meeting), Adelphi University, NY

Friday, November 15, 2019 (Board of Directors Meeting), Adelphi University, NY

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

St. John's University
8000 Utopia Parkway, Queens, NY
Directions
https://www.stjohns.edu/campuses/queens-campus/directions

Adelphi University
1 South Avenue, Garden City, NY 11530
Directions
https://visit.adelphi.edu/travel-info/directions/

CHEMICAL MARKETING & ECONOMICS GROUP

The Upcoming Digital Leap to AI — Digital Meets Chemical

Date: Wednesday, January 9, 2019

(See flyers on pages 13-14 for all details.)

WESTCHESTER CHEMICAL SOCIETY

Dr. Rolande Hodel's talk "Chemistry in Cameroon: Quality Control of Drugs" that had been scheduled for November 15, 2018 had to be cancelled because of snow. It should be rescheduled. When this occurs, a notice will be published.

EMPLOYMENT AND PROFESSIONAL RELATIONS COMMITTEE OF THE NEW YORK SECTION

To Human Resources Departments in Industry and Academia

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

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

ACS NY Section CME

THE UPCOMING DIGITAL LEAP TO AI

CME ACS NY Luncheon/Webcast • Wed. January 9, 2019 • Penn Club

ACS Chemistry for Life®

Abstract

The role of artificial intelligence (AI) in business and the global economy is a hot topic. This is not surprising, given recent progress, breakthrough results, and demonstrations of AI, as well as the increasingly pervasive products and services already in wide use. All of this has led to speculation that AI may usher in radical–arguably unprecedented– changes in the way people live and work.

However, AI is not a single technology but a family of digital tools and techniques, e.g., computer vision, natural language, virtual assistants, robotic process automation, and advanced machine learning. Chemical companies will likely use these tools to varying degrees. Some will take an opportunistic approach, testing only one technology in a specific function. Others may be bolder, adopting all five and then absorbing them across their entire company.

Recent cross-industry research conducted by the McKinsey Global Institute (MGI) suggests that AI technologies could lead to a substantial performance gap between the front runners on one side and slow adopters and nonadopters on the other. At one end of the spectrum, front runners (i.e., companies that fully absorb AI tools across their enterprises over the next five to seven years) are likely to benefit disproportionately. By 2030, they could potentially double their cash flow (economic benefit captured minus associated investment and transition costs), which implies additional annual net cash flow growth of about 6 percent for more than the next decade. Front runners tend to have a strong starting digital base, a higher propensity to invest in AI, and positive views of the business case for AI.

Large firms have a competitive advantage in adopting and absorbing AI ahead of industry peers. MGI's econometric simulation suggests that they have good adoption rates. In fact, early corporate adopters will benefit from the exponential impact, potentially gaining many more benefits than followers.

Join us for a discussion on how AI could affect the chemical industry's business processes, and the innovative business models that the industry leaders must adopt to thrive in this fast-changing environment.

McKinsey&Company

Speaker: **Ezra Greenberg,** PhD, is a Senior Expert in McKinsey's Center for Advanced Analytics in Strategy, Corporate Finance, and Macroeconomics. He helps clients build a deep understanding of the macroeconomic forces driving the global economy and translate these insights into actionable business and investment strategies. Ezra worked for three years at the world's largest hedge fund, Bridgewater Associates. Prior to joining McKinsey & Company in 2000, he was a Principal Economist at IHS Global Insight (then Standard & Poor's DRI). Ezra holds a BA in economics from McGill University and a PhD in macroeconomics at University of Maryland.

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

ACS New York Section CME Board

Chair
Steve Barnett
Adam Closson

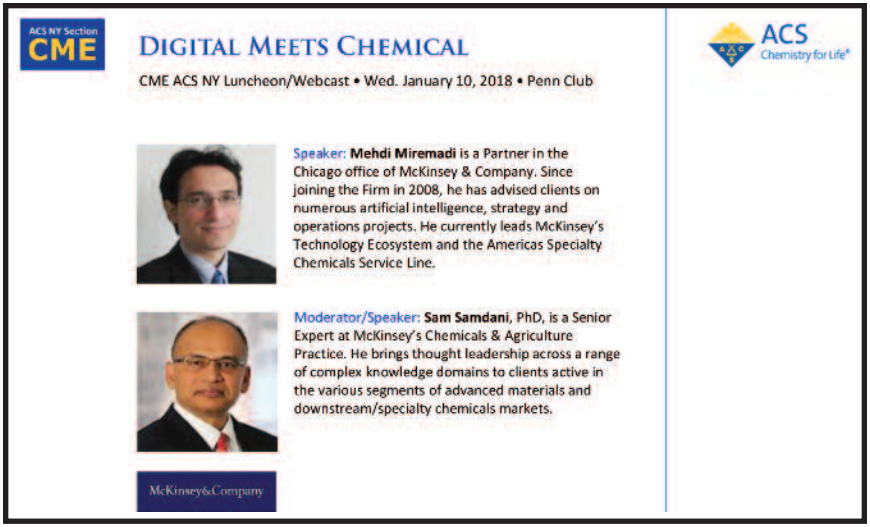
Vice Chair
Charles Brumlik

Secretary
Marios Hatzikyriakou

Treasurer
Karin Bartels

Directors
Neil Burns
Owen Jappen
Brian Orkin
Guy Penard
Paul Pospisil

LEADERSHIP Awards™
December 10, 2019



NEW YORK SECTION OF THE SOCIETY FOR APPLIED SPECTROSCOPY (NYSAS)

The History of the United States Pharmacopeial Convention (USP)

Speaker: Michael Cutrera, M.S, B.S. Consultant, formerly with BMS, USP, Sun Pharmaceuticals, Core Pharmaceuticals, American McGaw Laboratories, Marion-Merrell Dow, R. P. Scherer, Integra LifeSciences Corporation, and IBAH Biopharm, Inc.

Abstract: As we approach the bicentennial anniversary of the founding of the United States Pharmacopeial Convention (USP) in 2020, it's important to understand how such a documented public standard for medicines came into being. This presentation covers the founding and development of USP, and its importance to public health and the development and progress of pharmaceutical science and drug development.

Biography: Mr. Cutrera has 38 years' experience in the Pharmaceutical Industry, focusing on analytical laboratory management, research & development and Current Good Manufacturing Practices (cGMP) compliance.

He was a long-term member of the United States Pharmacopeia (USP) Council of Experts, and chairperson of several USP Monograph Development and Standard-Setting Committees. He served as USP's Director of Monograph Modernization. Currently a member of the EDQM Expert Working Group on Chromatography. He organized and served as Co-Chairperson of the Pharmaceutical Analysis Symposium at the annual Rocky Mountain Conference on Analytical Chemistry (from 1992 to 2004), and from 2002 through 2007 Chaired the annual Technology Transfer Conference sponsored by the Institute of International Research (IIR). Over the past 25 years, he regularly presented seminars and courses nationwide on pharmaceutical and regulatory science, spectroscopy, chromatography, method and cleaning validation, instrument qualification, cGMP compliance, auditing, investigations, remediation, laboratory operations and technology transfer.

Date: **Thursday, January 24, 2019**
Time: 5:30 – 8:00 PM
Place: HORIBA Scientific
20 Knightsbridge Road
Piscataway, NJ 08854

Cost: $15 (members), $5 (students); **RSVP for Dinner by January 23, 2019** to **debperu@outlook.com**

If you cannot attend: We will live stream the presentation: RSVP for Webinar **by January 23, 2019** to **debperu@outlook.com** and we will send you a link to the Webinar.

Our website is: **www.nysas.org. Please consult the website regularly for updates about the meeting details, as well as possible changes as well as information about future meetings. If you plan to attend a meeting, please notify the NYSAS secretary **debperu@outlook.com** beforehand so we can make arrangements for the expected number of people. Your name will then also be added to our e-mail list for future meeting announcements unless you request not to be added.

NEW YORK NANOSCIENCE DISCUSSION GROUP

FUTURE MEETINGS

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.

Date: **Tuesday, February 5, 2019 and Tuesday, June 4, 2019**
Times: Refreshments at 7:00 PM
Science at 7:30 PM
Place: NYU Silver Center
31 Washington Place, between Washington Square East and Greene Street, Room 1003 (10th floor)
New York, NY

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

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

LONG ISLAND SUBSECTION

Seminar Events for Spring 2019

Mechanisms of Opening and Closing of the Bacterial Replicative Helicase

Speaker: Dr. David Jeruzalmi
Professor of Chemistry and Biochemistry
The City College of New York

Synopsis:
Assembly of bacterial ring-shaped hexameric replicative helicases on single-stranded (ss) DNA requires specialized loading factors. However, mechanisms implemented by these factors during opening and closing of the helicase, which enable and restrict access to an internal chamber, are not known. We have investigated these mechanisms through analysis of the structure of the Escherichia coli DnaB helicase•bacteriophage λ helicase loader (λP) complex. We show that five copies of λP bind at DnaB subunit interfaces and reconfigure the helicase into an open spiral conformation that is intermediate to previously observed closed ring and closed spiral forms; reconfiguration also produces openings large enough to admit ssDNA into the inner chamber. The helicase is also observed in a restrained inactive configuration that poises it to close on activating signal, and transition to the translocation state. Our findings provide insights into helicase opening, ssDNA entry, and closing in preparation for translocation.

Dr. Jeruzalmi will also discuss various exciting City College's NSF-REU (research experience for undergraduates) Opportunities.

Date: **Thursday, February 7, 2019**
Times: Social with Light Refreshments - 5:30 PM
Seminar Start: 6:00 PM
Dinner: After Seminar, at a nearby restaurant, $25 per person.
Place: Queensborough Community College, Science Building
Roomm S-112

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

* * * * *

The other scheduled seminars are as follows:

Speaker: Dr. Shengping Zheng
Hunters College of CUNY

Date; Thursday, March 7, 2019

* * * * *

Speaker: Dr. Ruel Desamero
York College of CUNY

Date: Thursday, April 4, 2019

For all these seminar events, the times and place are as follow:

Time: 6:00 PM to 8:00 PM
(Refreshments starts at 5:30 PM)
Place: Queensborough Community College, Room 112
222-05 56th Avenue
Queens NY 11364

Directions to QCC:
http://www.qcc.cuny.edu/about/getting-here.html

WESTCHESTER CHEMICAL SOCIETY

FUTURE MEETINGS

*****

Special Seminar – "Tripodal Ligands in Bioinorganic and Organometallic Chemistry: Carbon Dioxide Functionalization and Mercury Detoxification"

Speaker: Gerard Parkin, D.Phil.
Professor, Dept .of Chemistry
Columbia University
New York, NY

Abstract:
Despite the fact that certain metal ions are essential for life, some are highly poisonous. For example, while zinc is essential for humans, as exemplified by its roles in carbonic anhydrase and liver alcohol dehydrogenase, its congeners, cadmium and mercury, are most toxic. Synthetic analogues, i.e. small molecules that mimic the structure and function of enzymes, provide an important means to afford insight into the natural systems. Tripodal ligands provide a means to obtain such analogues and the research described will focus on the application of tripodal ligands in the chemistry of zinc and mercury. In addition, these ligands provide access to novel hydride compounds of zinc and magnesium that are capable of a variety of catalytic transformations. For example, these catalysts are capable of functionalizing carbon dioxide, a transformation that is of particular interest considering that carbon dioxide is a ubiquitous and typically inert compound.

Biography:
Gerard Parkin received his B. A., M. A., and D. Phil degrees from the Queen's College, Oxford University, where he carried out research under the guidance of Professor Malcolm L. H. Green. In 1985, he moved to the California Institute of Technology as a NATO postdoctoral fellow to work with Professor John E. Bercaw. He joined the faculty of Columbia University as Assistant Professor in 1988 and was promoted to Associate Professor in 1991 and to Professor in 1994. He served as Chairman of the Department from 1999 – 2002. He has also served as Chair of the New York Section of the American Chemical Society, Chair of the Inorganic Chemistry and Catalytic Science Section of the New York Academy of Sciences, Chair of the Organometallic Subdivision of the American Chemical Society Division of Inorganic Chemistry, and Chair of the Gordon Research Conference in Organometallic Chemistry.

He is an elected Fellow of both the American Chemical Society and the Royal Society of Chemistry and is the recipient of a variety of international awards, including the ACS Award in Pure Chemistry, the ACS Award in Organometallic Chemistry, the RSC Corday Morgan Medal, the RSC Award in Organometallic Chemistry, the RSC Ludwig Mond Award, and the RSC Chem Soc Rev Lecture Award. He is also the recipient of the United States Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring, the United States Presidential Faculty Fellowship Award, the Columbia University Presidential Award for Outstanding Teaching, and the Lenfest Distinguished Columbia Faculty Award.

His principal research interests are in the areas of synthetic, structural, and mechanistic inorganic chemistry

Date: **Tuesday, February 12, 2019**
Times: Refreshments: 5:30 PM
Lecture: 6:00 PM
Place: Westchester Community College
Gateway Building Room 110
75 Grasslands Road
Valhalla, NY 10595
Gateway Building Room 110
Cost: Free and Opened to the Public

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

Inclement weather: The WCC information number for closures: 1-914-606-6900

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

Extracellular Vesicles in Diagnostics and Therapeutics

Organizers: Richard A. Cerione, PhD
Cornell University

Jemy A. Gutierrez, PhD
Pfizer

Jorge Schettini, PhD
Pfizer

Claire Steppan, PhD
Pfizer

Gregory Tesz, PhD
Pfizer

Theresa Wilson, PhD
Pfizer

Alissa Weaver, PhD
Vanderbilt University School of Medicine

Alison Carley, PhD
The New York Academy of Sciences

Sonya Dougal, PhD
The New York Academy of Sciences

Keynote Speaker: Xandra Breakefield, PhD
Harvard University

Speakers: Elena V. Batrakova, PhD
University of North Carolina, Chapel Hill

Richard A. Cerione, PhD,
Cornell University

David C. Lyden, MD, PhD,
Weill Cornell Medical College

Harmeet Malhi, MBBS
Mayo Clinic

Susmita Sahoo, PhD
Icahn School of Medicine at Mount Sinai

Johan Skog, PhD
Exosome Diagnostics, Inc

Alissa Weaver, PhD
Vanderbilt University School of Medicine

In this symposium, we will review the most recent advances in extracellular vesicles (EV) research and their increasing impact on diagnostics and drug development for cancer, neurodegenerative disease, metabolic disease, and cardiovascular disease.

Date: **Tuesday, February 19, 2019**
Time: 8:30 AM – 5:00 PM (reception to follow)
Place: The New York Academy of Sciences
7 World Trade Center
250 Greenwich Street – 40th Floor
New York, NY 10007

Cost: ACS and NYAS members save $50 or more on this event. Please select the appropriate non-member Registration Category and use the Priority Code "ACS". **The Early Bird Discounted Registration deadline is January 8, 2019.**

For more information and to register for the event, go to: **www.nyas.org/EV2019**

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

ORGANIC TOPICAL GROUP — JOINT MEETING WITH THE NEW YORK ACADEMY OF SCIENCES CHEMICAL BIOLOGY DISCUSSION GROUP

Phase Separation in Biology and Disease

Organizers: Clifford Brangwynne, PhD
Princeton University

Jason Imbriglio, PhD
Merck

Neal Zondlo, PhD
University of Delaware

Sara Donnelly, PhD
The New York Academy of Sciences

Sonya Dougal, PhD
The New York Academy of Sciences

Speakers: Clifford Brangwynne, PhD
Princeton University

Zhijian "James" Chen, PhD
University of Texas, Southwestern

David Cowburn, PhD
Albert Einstein College of Medicine

Abby Dernburg, PhD
University of California, Berkeley

Nicolas Fawzi, PhD
Brown University

Martin Jonikas, PhD
Princeton University

Tanja Mittag, PhD
St. Jude Children's Research Hospital

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ORGANIC TOPICAL GROUP

(continued from page 17)

Rohit Pappu, PhD
Washington University in Saint Louis

Geraldine Seydoux, PhD
Johns Hopkins University School of Medicine

This one-day symposium will bring together scientists from academia and industry to dissect the latest advances in the field of biological phase separation and discuss the implications for human disease.

Date: **Wednesday, February 20, 2019**
Time: 8:30 AM – 4:30 PM (reception to follow)
Place: The New York Academy of Sciences
7 World Trade Center
250 Greenwich Street – 40th Floor
New York, NY 10007
Cost: ACS and NYAS members save $50 or more on this event. Please select the appropriate non-member Registration Category and use the Priority Code "ACS". **The Early Bird Discounted Registration deadline is January 11, 2019.**

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

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

METRO WOMEN CHEMISTS COMMITTEE

Please join us for a seminar sponsored by the NY ACS Metro Women Chemists' Committee:

Butters, Oils, Powders, and Flowers As Antimicrobial Surfaces

Speaker: Dr. JaimeLee Iolani Rizzo
Professor, Department of Chemistry & Physical Sciences, Pace University, NY

Abstract:
The challenge to maintain a sterile environment and protect patients in a clinical setting has grown in the recent years, due to the exposure of microorganisms. The discovery of the antimicrobial surfaces in previous research has shown a minimized growth in microorganisms such as bacteria, fungi, and viruses. Challenges still arise in creating surfaces because of the difficulty to industrialize, the non-uniformity throughout the surface, and the activity of the antimicrobial agent being washed off a given surface. Our current work not only focuses on bacteria affecting our internal makeup, but also how the mutagen, UV radiation, can alter the expression of our cells and lead to lethal health issues like cancer. In order to test against bacteria and UV radiation, a variety of natural butters are infused with an array of exotic essential oils, plant powders, and dried flowers at different concentrations. The resultant material is a homogeneous viscous surface. The novel materials have been tested against *S. aureus*, *E. coli*, and *P. aeruginosa* and against UV radiation. We herein report the formulation of these naturally-derived materials and their efficacy against bacteria and UV radiation.

About the Speaker:
Dr. JaimeLee Iolani Rizzo is Professor and Assistant Chair of Chemistry and Physical Sciences at Pace University, NYC. She received an A.S, B.A, M.A, M.Phil, and Ph.D. all through the City University of New York. Amongst other duties, she serves as the Coordinator of the Professions in Health Advisory Team (PHAT) and Faculty Advisor of the Chemistry Club at Pace. She had been named a Distinguished Fellow by the American Chemical Society in 2017 and in 2018 was honored with the Homer and Charles Pace Faculty Award. She currently serves as Councilor for the New York Section of the ACS and was Chair of the Section in 2012.

Dr. Rizzo's work involves the synthesis and characterization of materials bearing antimicrobial activity where she has 15 patents and numerous publications and presentations relating to her work. She is also a co-author of two textbooks, "Phosphorus Chemistry" and "Organic Chemistry". Her current work relates to the development of antibacterial materials, which comprises completely naturally-based materials which include exotic butters, oils, powders, and flowers. Some of these materials have also demonstrated UV protection.

Date: TBA, Spring 2019
Time: 12:15 PM – 1:15 PM
Place: Pace University
One Pace Plaza
New York, NY 10038

For further information, please contact Dr. Rita K. Upmacis (**rupmacis@pace.edu**), Chair of the Metro Women Chemists' Committee.

NEW YORK SECTION 50, 60 AND 70 YEAR MEMBERS

The New York Section Board would like to congratulate our local members that have reached 50, 60 and 70 years of service! Due to scheduling conflicts we were unable to run this event in 2017 so we combined them into a single event this year. All members reaching this milestone in 2017 and 2018 were invited to attend our awards luncheon at Trattoria Bianca Restaurant, New York City on Sunday, October 28, 2018, a short walk from Penn Station. Attendees had a great time and will plan on attending their next 10-year anniversary milestone. This event was organized by the Member Awards Committee chaired by Frank Romano.

70 Year Member Anniversary
Mr. Richard Ehrenreich
Dr. James B. Cumming
Dr. Morton A. Golub
Ms. Helen E. Hoda
Mr. Daniel J. Newman
Mr. Howard Lawrence O'Keefe
Dr. Edward A. Schildknecht
Dr. Meyer Steinberg

60 Year Member Anniversary
Dr. Victor George Badding
Dr. William Bahary
Dr. Edward J. Barrett
Ms. Nancy O. Bolan
Mr. Joseph Burdige
Ms. Jean Delfiner
Dr. George A. Ellestad
Dr. William H. Flank
Ms. Eena Mai Franz
60 Year Member Anniversary (Cont'd)
Dr. Bernard M. Goldschmidt
Dr. Leon Gortler
Dr. William E. L. Grossman
Dr. Howard Haubenstock
Mr. C. Zane Jacobs
Dr. Ann Marie R. Kistner
Dr. D. R. MacKenzie
Dr. Barbara S. Magid
Mr. John J. Marcinek
Mr. Irwin Margolin
Dr. Mary Lou Moller
Mr. Thomas Joseph Quigley
Dr. Philip Rutkin
Mr. Mitchell Lloyd Schlossman
Dr. Raymond Seltzer
Mr. James B. Smith
Dr. Gerald I. Spielholtz
Dr. Siao Fang Sun
Mrs. Ivi A. Tamm
Dr. Anthony C. Testa
Mr. Robert Thomas
Dr. Grace M. Wieder
Dr. Herman E. Zieger

50 Year Member Anniversary
Dr. Abdul Aziz
Dr. Philip Barnett
Mr. Thomas Lawrence Barry
Dr. Howard Joseph Beim
Dr. Selman A. Berger
Dr. Curtis Fred Brewer
Dr. Dennis A. Capitanio
Dr. Chien Chung Chao
Mrs. Nancy K. D'Angelo
Dr. Gerson Jerry Davis
Dr. Peter J. Degen
Dr. Russell N. Dietz
Dr. Charles Doubleday, Jr.
Dr. Robert F. Drake
Dr. Robert Edelman
Dr. Robert G. Eilerman
Dr. Peter R. Farina
Dr. Stephen Z. Goldberg
Dr. Arthur P. Grollman
Dr. Leonard Timbrook Hodgins
Dr. Toby Berger Holtz
Mr. Yung-Yu L. Huang
Dr. Charles F. Hummel
Dr. Neil David Jespersen
Dr. Moses K. Kaloustian
Mrs. Marjorie Kandel
Dr. Edward P. Kang
Dr. Hiroko Ito Karan
Mr. Elliot Katten
Dr. Edward Karl Kleiner
Dr. Thomas A. Kubic
Dr. Harris I. Lehrer
Dr. Bruce L. Libutti
Dr. Iris L. Long
Mr. Michael Thomas McGuire
Dr. Fred Robert Naider
Dr. Sheshadri Narayanan
Dr. Jack Richard Norton
Dr. Seymour Peller
Dr. Jack Michael Preses
Dr. John C. Ringen

(continued on page 19)

NEW YORK SECTION 50, 60 AND 70 YEAR MEMBERS

(50 Year Member Anniversary continued from page 19)

Dr. Michael M. Rosen
Mr. Melvin M. Schlechter
Mr. Stephen Eugene Schwartz
Dr. Ira Schwartz
Dr. John Sharkey
Dr. Ralph Stephani
Mr. Charles Joseph Sumprer
50 Year Member Anniversary (cont'd)
Miss Marilyn Verna Taggart
Dr. Charles Peter Talley
Mr. Janis Upeslacis
Dr. Francis A. Via
Dr. Allen Wissner

WESTCHESTER CHEMICAL SOCIETY

Using grant money from ACS, Westchester Chemical Society board members, Sally Mitchell and Sr. Mary Virginia Orna, Ph.D. have put together a program for the International Year of the Periodic Table. It is called "Periodic Table People" and it will feature researching of the 17 elements on the Periodic Table named after someone. Information will be distributed in January to area high schools and colleges. The goals of the project are to:

1. Connect high school and college students to Local Section members through a science café.
2. Research the 17 elements on the periodic table associated with the name of a scientist and produce a research paper explaining the naming of the element.
3. Present the paper during a science café through an impersonation of the scientist.
4. Connect the participants and local section members to the ACS Division of History.

The target audience is section high school and college students, teachers and professors. The teacher of the team will receive a "virtual" program in a box. Each project will be named for one of the 17 elements on the periodic table that is named after a scientist. Each team will research the same types of information such as "Nationality", dates of birth and death, family history, etc. Then they will research what it is that gives them the privilege of being on the periodic table. The 17 elements in this project are:

- Samarium, Sm, 62, Colonel Vassili Samarsky-Bykhovets
- Gadoinium, Gd, 64, Johan Gadolin
- Curium, Cm, 96, Marie and Pierre Curie
- Einsteinium, Es, 99, Albert Einstein
- Fermium, Fm, 100, Enrico Fermi
- Mendelevium, Md, 101, Dmitri Mendeleev
- Nobelium, No, 102, Alfred Nobel
- Lawrencium, Lr, 103, Ernest Lawrence
- Rutherfordium, Rf, 104, Ernest Rutherford
- Seaborgium, Sg, 106, Glenn Seaborg
- Bohrium, Bh, 107, Niels Bohr
- Meitnerium, Mt, 109, Lise Meitner
- Roentgenium, Rg, 111, Wilhelm Röntgen
- Copernicium, Cn, 112, Nicolaus Copernicus
- Flerovium, Fl, 114, Georgy Flerov
- Oganesson, Og, 118, Yuri Oganessian.

Ms. Mitchell is the WCS High School Liason and teaches at Rye High School. Sr. Orna, is a professor of Chemistry at the College of New Rochelle and is, among her other accomplishments, co-author of a recent book, "The Lost Elements: The Periodic Table's Shadow Side".

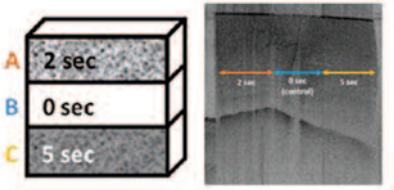
NEW YORK SECTION OF THE SOCIETY FOR APPLIED SPECTROSCOPY (NYSAS)

Summary Reports about the October, 2018 and November, 2018 meetings of NYSAS

By Deborah A. Peru

The October 2018 dinner & networking meeting of the New York Section of the Society for Applied Spectroscopy (NYSAS) was held on October 30th in at the new Horiba Optical Spectroscopy center in Piscataway, NJ. Twenty-six (26) people attended the event. This month, we began live streaming the presentation to members who cannot attend live and we are happy to report this option was a success. We are very grateful for Horiba's support in hosting our meetings, which has improved attendance at our meetings due to the easy access to the facility and plentiful on-site parking.

Optical coherence tomography image of bovine enamel exposed to phosphoric acid for 0 sec, 2 sec, and 5 sec.



Experimental design and OCT image of bovine enamel exposed to phosphoric acid for 0 sec, 2 sec, and 5 sec.

The speaker, Christine Sahyoun is currently pursuing her PhD in Biomedical Engineering at Rutgers University under the guidance of her advisor, Dr. Mark Pierce. Her work focuses on developing and using optical imaging methods such as OCT and short-wave infrared (SWIR) imaging for the assessment and quantification of tissue health and disease, specifically focusing on oral health. Christine received her BS (2014) and MS (2016) in Biomedical Engineering from Rutgers University.

Christine's talk was titled A comparison of structural and functional optical coherence tomography systems for assessment of hard dental tissues. In this talk, Christine discussed the use of optical coherence tomography hardware for oral hard tissue analysis, as a safe non-ionizing alternative to X-ray imaging for early detection. Optical coherence tomography (OCT) provides cross-sectional images of tissue extending up to 2 mm in depth, allowing visualization of the enamel and dentin layers in teeth. Previous investigations of OCT in dentistry have used commercial systems operating in the 1,325 nm wavelength region with low NA optics. However, there are many modifications to this standard configuration that can potentially reveal additional structural and/or functional information. In her presentation, Christine demonstrated the pros and cons of using different light sources, 1325 and 827 nm for in-vivo measurements and the effect of sample arm numerical aperture (0.04, 0.15) on transverse resolution in en face reconstructions. Christine also discussed the benefits of using polarization-sensitive OCT. These system configurations were then used for imaging healthy dental tissue in vivo, as well as ex vivo specimens with indications including demineralization, cracks, caries, and white spot lesions. Her research demonstrates the need for different OCT hardware configurations in clinical studies to enhance the sensitivity for measuring different indications.

At the end of the post Q&A session, Christine was presented with an SAS baseball hat, and a custom designed light prism as a token of thanks from the Society.

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November meeting of NYSAS, in conjunction with EAS

For the November meeting, the NYSAS organization hosted the Gold Medal Award session at the Eastern Analytical Symposium (EAS), honoring Dr. Professor Igor Lednev, Albany University SUNY. Several of our members presented talks at the symposium. Fran Adar, Howard Mark, and Deborah Peru presented a talk at the 60th SAS Anniversary Session chaired by John Wasylyk. The title of the talk was NYSAS celebrates 60+ Years of Scientific Collaboration, which included a presentation of the history of Statistics and Chemometrics, and another talk about the Impact of Chemometrics on the Evolution of Raman Spectroscopy.

The NYSAS Regional Section had a Booth (a Table) at the exhibit area of EAS, where we distributed promotional materials for SAS and the NY Regional Section, and encouraged people to sign up for membership and for NYSAS monthly meeting announcements

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

NY SECTION PROJECT SEED

The NY Section had the largest delegation of SEED students to the National Meeting that took place in Boston in August. The NY Section had 28 SEED I and SEED II students and were accompanied by Nadia Makar, the Project SEED Coordinator for the Section and Mrs. Jennifer Donnelly, a teacher at Union City High School. The students presented the results of their research projects at Sci-Mix. They also participated in the 50th anniversary of Project SEED and attended the presentation given by Sir Fraser Stoddart, the 2016 Nobel Prize Winner in Chemistry.

Project SEED of the New York Section was presented, at the National Meeting, with the Chemluminary Award for Outstanding Project SEED program for 2017.

Nadia Makar
STEM Supervisor
UCHS/AEA
NY Section ACS SEED Coordinator

This is the picture of the NY Section SEED students with Dr. Fraser Stoddart, the 2016 Nobel Prize winner in chemistry. This picture was taken in Boston at the National ACS meeting in August.

(Photos courtesy of Nadia Makar)

NEW YORK LOCAL SECTION NATIONAL CHEMISTRY WEEK PROGRAM WON NATIONAL CHEMLUMINARY AWARD

National Chemistry Week Project Leaders:
Dr. Ping Furlan, Dr. Dempsey Hyatt, and Ms. Erin Wasserman

For the 14th consecutive year, the New York Section celebrated National Chemistry Week on Sunday, Oct. 21, 2018 from 11 a.m. to 4 p.m. at New York Hall of Science in Queens. Three hundred volunteers, traveling from all directions in the early morning and representing twenty-two colleges, high schools, nonprofit organizations, chemical companies, and business centers, put on a spectacular chemical hands-on demo that showed the public "Chemistry is Out of this World!" The Program included nearly 40 activity tables, more than 50 theme-related and/or action-containing safe and fun experiments, experiments from Let's Do Chemistry Kits, a large screen theme-related slideshow, and engaged 1200 Hall visitors especially students in grades K-12.

Theme-related exhibits included: Fuzzing Stars and Planets, Anty-Gravity Galaxy in a Bottle, Sublimate with Us – The Chemistry of Comets, Make Your Own Planet – Prebiotic Chemistry, Jupiter's Storm, The Phase of the Moon, Made in the Shade – Chemistry and Astronomy, Make Your Own Alien Demo, Extraterrestrial Samples, Solar System Bath Bombs, Galaxy in a Bottle, Atmosphere Jars, Zero Gravity,Take Home a Meterorite, Explore Outer Space w/Spectroscopy, Plasma, Rain Clouds, Galaxy Slime, Density Rainbow, Nuclear Fusion in the Sun, Jupiter's Great Red Spot: Tornado in a Bottle, Iron in Meterors, and Easter Egg Rockets.

(More pictures on next 2 pages)

"Let's put the galaxy in a bottle!" ***(Photo courtesy of JaimeLee Rizzo)***

"Wow, this Easter Egg Rocket goes up so high!" ***(Photo courtesy of Carla Hachicho)***

"Let's Do Chemistry!"–The Rocket Reaction. ***(Photo courtesy of Anthony Nigro)***

"Let's Do Chemistry!" – The Vacuum of Space. ***(Photo courtesy of Anthony Nigro)***

NY SECTION CELEBRATES 2018 NCW *(continued from page 23)*

For its longevity, excellent student involvement, and strong partnership among the participating organizations, the Program won the prestigious national Chemluminary Award for Outstanding Ongoing NCW Event. This year, the New York Section also utilized the activities in the National Science Foundation funded "Let's Do Chemistry" Physical Kit, such as Rocket Reactions, The Vacuum of Space, Chemistry Makes Scents, Clean Oil Spill with Chemistry, and What's in the Water to help celebrate the NCW. The Kit was made available via a collaboration between the ACS and the NISE (National Informal STEM Education) Network.

As a highlight, the New York Senator, Jessica Ramos, visited our Program, voiced her support for STEM education, and congratulated the volunteers for achieving the NCW Chemluminary Award. More than ten Section Board members including the Section Chair, Dr. Joe Serafin, and the Section Immediate Past Chair, Dr. Brian Gibney, also attended the event and joined the NCW Committee in presenting outstanding awards to volunteers. This year, Queensborough Community College (QCC) won the "Best Theme-inspired Exhibit" Award for the 2nd consecutive year and PepsiCo the "Most Popular" Award. Small cash awards were also presented to the following ACS Student Chapters for their creative efforts and outstanding engagement with NCW: Pace University, Hofstra University, Columbia University, and Stony Brook University. QCC and College of Mount Saint Vincent were recognized as the "Best Teams for Supporting Program Functions". For their examplary contributions, the NCW Leadership Awards were presented to Dr. JaimeLee Rizzo and Dr. Scott Lefurgy. All volunteers appreciated being part of the Program, meeting new and interesting people at the Program, and enjoyed some of the-most-fascinating chemistry and science exhibits at the Hall of Science on the event day! Program publicity included brochures, on-site ACS banners, NCW balloons, NCW giveaways, websites, facebook photos and news, news articles, flyers in English and Spanish sent to all NYACS members and 1000 school districts.

This year, at U.S. Merchant Marine Academy (USMMA), the Kings Point Science & Innovation Club (KP SIC) and the Math & Science Department invited the USMMA community members to help celebrate National Chemistry Week on Friday, Oct. 12, 2018 from 0900 to 1430 on Zero Deck, Delano. Hundreds of campus midshipmen, plebes, faculty, staff and administrators participated in the program and tried more than ten NCW activities. Moreover, twenty midshipmen and faculty took the KP SIC sponsored field trip to Hayden Planetarium in New York City on Saturday Oct. 13, 2018, enjoyed the inspiring, exciting and memorable experience, and learned a great deal about the roles of STEM, chemistry and innovation in our understanding of space, planets, and stars.

We would like to extend our warmest thanks to our volunteers as well as the sponsoring colleges, universities, companies and non-profit organizations. Their enthusiastic support, their strong leadership and community spirit have made the continued success of this largest chemical hands-on public educational event in the area possible: Adelphi University, American Institute of Chemical Engineers, American Museum of Natural History, Barnard College, Bronx Community College, College of Mount Saint Vincent, Columbia Unviersity, Guttman Community College, Hoftstra University, Iona College, Maruzen International Co., Ltd., New York University, Pace University, PepsiCo, Queens College, Queensborough Community College, Roosevelt UFSD, St. Johns University, St. Joseph's College, Stony Brook University, U.S. Merchant Marine Academy, Yeshiva University, and New York Hall of Science.

"That's how Jupiter gets that great red spot!" ***(Photo courtesy of Brian Gibney)***

Celebtate the outsdanding ACS Student Chapter contribution. ***(Photo courtesy of Dempsey Hyatt)***

New York State Senator, Jessica Ramos, celebrates National Chemistry Week with the New York Section volunteers. From left to right: Joe Serafin, Jessica Ramos, Paul Sideris, Erin Thelen, Ping Furlan, Dempsey Hyatt, and Brian Gibney. *(Photo courtesy of Dempsey Hyatt)*

Field trip to Hayden Planetarium – what a cool and memorable way to learn about the roles of STEM, chemistry, and innovation in our unstanding of space, planets, and stars! *(Photo courtesy of American Museum of Natural History)*

National

ACS 2019 LEADERSHIP INSTITUTE

Please share this message with your 2019 Chair-elect and others who may be interested in attending the 2019 ACS Leadership Institute.

Dear Local Section Leader:

On October 5, 2018, you should have received an email with a save the date reminder for the 2019 ACS Leadership Institute planned for January 25-27, 2019 in Atlanta, GA. This is to let you know that registration is now open and will close on Friday, January 7, 2019.

Registration Fee and Lodging

The Leadership Institute will be held at the Renaissance Atlanta Waverly Hotel and Convention Center (2450 Galleria Parkway, Atlanta, GA 30339). The registration fee for one delegate is $425.00 which covers two nights lodging, meals, and conference materials. Local sections are encouraged and may choose to send more than one delegate; however, the registration fee for any additional delegates is $800.00, which, again, covers lodging, meals, and conference materials. Should you need to extend your stay to arrive before Friday or depart after Sunday, you, or your local section, will be responsible for the additional costs. Additional room nights are $153.00 plus 14% tax for each night. You may request your hotel accommodations when you register for the conference. PLEASE DO NOT CALL THE HOTEL DIRECTLY. ACS staff will handle all room requests based on your registration.

Registration fees will not be collected at the time of registration. Your local section treasurer will be invoiced after the conference for your registration fee and any additional hotel room nights.

Conference Workshops and Leadership Courses

When registering for the conference, you will be asked to select the Local Section Track, identify your local section and role, and select two ACS Leadership Development System courses. You can review the course descriptions from the FAQ website. Please make sure to complete your registration in its entirety.

If you are new to your officer role or to local section leadership, we strongly encourage you to take Engaging and Motivating Volunteers (EMV). If you are an experienced local section/ACS leader and have taken at least two ACS Leadership Development System courses, you may consider taking the 8hr Extraordinary Leader course (in lieu of the two 4-hour courses). If you choose to take this full-day course, you must register by December 21st and complete a 360° survey prior to the LI to assess your leadership skills and help you prepare an Individual Development Plan. Detailed instructions for completing your 360° review will be provided after you register.

Local Section Conference Stipends

The Committee on Local Section Activities (LSAC) has authorized a $250.00 travel stipend to the first 40 participants that register. Please register at your earliest convenience to secure your stipend. The stipend is valid for one participant per local section.

Questions? Please contact the me (m_obrien@acs.org). We look forward to seeing you in Atlanta!

Mark O'Brien
Senior Manager, Component and Career Services
Membership and Society Services
T 202-776-8212 I 800-227-5558, ext. 8212
www.acs.org

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 postmarked no later than March 31 Annually

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

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. Team nominations are acceptable. Each member nominated should make a substantial scientific (preferably chemical) contribution to the team's work. The talk given should be no longer than approximately one hour and could be given by one or more team members. 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 Rd., 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**.

KAVILI EMRGING 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.

Grants Available

ANNOUNCING INNOVATIVE PROJECT GRANTS FOR LOCAL SECTIONS

Your local section can apply for this cycle by completing the online application form linked on www.acs.org/localsectionipg or by following the application instructions below.

This message is sent on behalf of Greg Milligan, Chair of the Subcommittee on Grants and Awards of the Committee on Local Section Activities (LSAC) and Jason Ritchie, LSAC Chair.

Dear Local Section Officer and/or Councilor:

Beginning December 1, ACS Local Sections will be able to submit their applications for the **Local Section Innovative Project Grant (IPG).** This program seeks to help local sections invest in projects that will increase member involvement and public understanding of chemistry as well as improve services to the local section's membership. Local sections are allowed, and encouraged, to use IPG funding for programs that energize their membership and help recruit new ACS members. Up to **$3500** is available per application; the **submission deadline is January 14, 2019 at 11:59 PM ET.**

Before you apply, we strongly encourage your section to review the resources linked in this email. Following these **guidelines** will maximize your section's potential for funding. The **Frequently Asked Questions (FAQs)** outline common ways projects can be innovative and highlights several model proposals. This list of **recently funded IPG's** describes many successful projects. Local Sections are welcome to incorporate ideas that were utilized successfully by other local sections, adapting them to their local section's needs and goals. It is, however, a requirement that local sections submit final reports for any previously funded IPG's in order for new proposals to be eligible for the current cycle. If your section has any outstanding reports for applications submitted via Formsite, please **complete your final report here.** If your section has an outstanding report for an application submitted using Good Done Great, the original applicant should complete the final report linked to that application.

Your local section can apply for this cycle by completing the online application form linked on www.acs.org/localsectionipg or by following the application instructions below.

***** Important Application Instructions *****

ACS has launched a new online grants management system for submitting applications using your ACS ID and password! Please follow these steps to apply by the January 14 deadline.

1. Click this **link** to apply for the IPG

2. Enter your ACS ID and password. The system takes a few seconds to respond, please be patient as the application portal loads.

3. In the "Home" tab of the applicant portal, you can apply in a couple ways:

a. Click the **'Apply'** button at the top right and follow the prompts to the IPG application

b. Click the blue **'Apply'** button under the **'Programs'** button

4. In a pop-up window that asks you to select **a program to apply for, select "Local Section Innovative Project Grant"**

5. Once you receive the notification that you are eligible to apply, click the blue **"Apply"** button to proceed.

6. You may start your online application at this step

a. Any incomplete information will highlight in red and the portal will require a response before you are allowed to proceed

b. Choose **'Save as Draft'** at any point to stop and return to your application. You will need to return and complete your application prior to the submission deadline.

Contact **lsac@acs.org** with any questions about your section's application.

Sincerely,
Jason and Greg

American Chemical Society
1155 Sixteenth Street, NW
Washington, DC 20036

In the News

NEWS AT IU BLOOMINGTON

'Waltzing' nanoparticles could advance search for more effective drug delivery methods

IU scientists watch the 'swirling and spinning' of therapeutic nanoparticles to better understand their cellular binding

BLOOMINGTON, Ind. – Indiana University researchers have discovered that drug-delivering nanoparticles attach to their targets differently based upon their position when they meet — like ballroom dancers who change their moves with the music.

The study, published today in the journal *ACS Nano*, is significant since the "movement" of therapeutic particles when they bind to receptor sites on human cells could indicate the effectiveness of drug treatments. The effectiveness of immunotherapy, which uses the body's own immune system to fight diseases such as cancer, depends in part upon the ability to "tune" the strength of cellular bonds, for example.

"In many cases, a drug's effectiveness isn't based upon whether or not it binds to a targeted receptor on a cell, but how strongly it binds," said Yan Yu, an assistant professor in the IU Bloomington College of Arts and Sciences' Department of Chemistry, who led the study. "The better we can observe these processes, the better we can screen for the therapeutic effectiveness of a drug."

Until this study, researchers thought particles slowed down and became trapped when they bound to a receptor on a cell.

"But we also saw something new," Yu said. "We saw the particles rotated differently based upon when they became trapped in binding to their receptors."

This has never been seen before because, if molecular motion is a waltz, then scientists were only watching a single dancer.

To conduct their study, Yu's team created dance partners. These were two nanoparticles — one dyed green, the other red — that paired together to form a single imaging marker visible under a fluorescence microscope. This "nanoprobe" was then camouflaged with a cell membrane coating taken from a T lymphocyte, a type of white blood cell that plays a role in the body's immune system.

The two colors allowed the researchers to simultaneously observe the "rotational motion" — circling in place — and "translational motion" — movement across physical space — of the particle prior to attaching to the cell.

"We found that the particles began with random rotation, moved to rocking motion, then a circling motion and finally a confined circling motion," Yu said. "The observation of this wide range of rotational motion — and the transition from one form to the next at different points in time — is completely new."

Moreover, the researchers were able to start connecting these different motions to different bond strengths.

The group chose to "camouflage" the synthetic particles with cell membranes because these particles are not eliminated by the body's immune system as foreign objects in the same manner as conventional synthetic particles. The use of the body's own cell membranes also eliminates the need to design complicated surface features that bind to specific cells since they're already present in the existing membranes.

Monitoring the "waltzing" of camouflaged T lymphocytes to understand their targeted-binding to tumor cells is the next phase of their research, Yu said.

Additional authors on the paper are Yanqi Yu, a graduate student at IU, and Yuan Gao, a Ph.D. scientist who was a graduate student at IU at the time of the study. The work was supported by the National Science Foundation and the Research Corporation for Science Advancement.

A nanoparticle "dance pair." The pair were dyed red and green to reveal molecular binding under a fluorescence microscope.

Yan Yu.

Media Contact: Kevin Fryling
IU Communications, Phone: 812-856-2988
Email: **kfryling@iu.edu**

IU Bloomington is the flagship residential, doctoral-extensive campus of Indiana University. Its mission is to create, disseminate, preserve and apply knowledge. It does so through its commitments to cutting-edge research, scholarship, arts and creative activity; to challenging and inspired undergraduate, graduate, professional and lifelong education; to culturally diverse and international educational programs and communities; to first-rate library and museum collections; to economic development in the state and region; and to meaningful experiences outside the classroom. The Bloomington campus is committed to full diversity, academic freedom, and meeting the changing educational and research needs of the state, the nation and the world.