

The Chemical Bulletin

<http://chicagoacs.org>

SEPTEMBER • 2016

CHICAGO SECTION AMERICAN CHEMICAL SOCIETY EDUCATION NIGHT FRIDAY, SEPTEMBER 23, 2016

LOCATION

Loyola University
6430 N. Kenmore Ave.
Cueno Hall, Room 109
Chicago, IL

de Nobili Dining

6350 N. Kenmore (Corner of Kenmore and Sheridan)

DIRECTIONS TO THE MEETING

Cueno Hall is located on North Kenmore Avenue on the Lake Shore campus of Loyola University, near the intersection with West Sheridan Road.

By public transportation:

Take the CTA Red Line train to the Loyola stop.

From Downtown Chicago:

Take the Outer Drive north to its end. Follow Sheridan Road north to Devon Avenue, about 6500 North. Follow directions below to parking.

From the North:

Take I-94 south to the Edens spur. Follow the Edens spur east to the Edens Highway, Route 94, and go south to Touhy Avenue. Go east on Touhy to Sheridan Road and turn south on Sheridan to the Loyola Campus. Follow

Sheridan Road as it turns east, and turn north at the second stoplight on the one-way street into the campus. See parking information below.

From the South or West:

Get to **Edens Highway** heading north. Exit at Peterson Avenue heading east. Take Peterson east to Western, turn north to Devon then turn **east on Devon Avenue** which becomes Sheridan Road. Turn north at the second stoplight, Kenmore Avenue, on the one-way street into the campus. Or---

Take I-294 north to "190West - O'Hare - River Road" Follow "**River Road Exit Left After Toll**" and take River Road north to Devon. Right/east on Devon to Loyola. Or---

Take I-294 north to I-90-East. Take I-90 to the Lawrence Avenue exit. East to Cicero Avenue, north to Foster Avenue, then east to Broadway. Turn north on Broadway, which turns into Sheridan Road at Devon. Turn east on Sheridan Road and follow the directions below into parking. **Recommended on the Loyola website:** After exiting on I-90, exit northbound on Cumberland, almost immediately. Take Cumberland to Devon, turn east and follow Devon to

Sheridan Road, as above. You will be east-bound on Devon for almost 8 miles.

PARKING: Enter the campus at the intersection of Kenmore and Sheridan Road and bear to the left. Parking is available at the parking deck next to Flanner Hall for about \$7. Enter the garage at the entrance marked "Faculty, Students, Guests, Visitors." When leaving the garage, first purchase an exit parking ticket at the pay station machine located near the garage stairs and elevators.



Dr. Toni Glymph-Martin

Supervisor in the Monitoring and Research Division of the Metropolitan Water Reclamation District of the Greater Chicago District

Effects of Environmental Contaminants on Microorganisms in Wastewater Treatment Systems

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MEETING REGISTRATION, STUDENT POSTER SESSION, WCC NON-TRADITIONAL CHEMICAL CAREER EVENT (CUENO HALL)**5:00 PM – 7:45 PM****DINNER (de NOBILI CAFETERIA)– COST \$15****5:30 PM – 7:45 PM****HS SCHOLARSHIP EXAM AWARD PRESENTATIONS****7:45 PM – 8:15 PM****GENERAL MEETING****8:15 PM – 9:00 PM****NETWORKING****9:00 PM**

Abstract: Over the years, mankind has produced millions of tons of different environmental pollutants including pharmaceuticals, personal care products and antibiotics many of which persist in soil and water. Due to limitations in the techniques of disposal, low levels of these pollutants are still released and persist in the environment and enter the treatment system through domestic wastewater and storm water runoff.

Wastewater treatment systems are designed to foster an “environment” for microorganisms especially suited to not only remove organic wastes from the water, but to also “settle out” as solid material for easy removal. Bacteria, protozoa and metazoa play a primary role in the treatment and removal of organic material from the wastewater. It is important to understand the conditions in the treatment process that allow them to do their best work. Changes in the treatment system environment will be reflected in changes in the microbiology.

Exposure to environmental contaminants will produce responses in microorganisms in the treatment process that can be observed. These reactions can be observed prior to their impact to the treatment system process. In doing so, we can predict and sometimes circumvent treatment system upsets.

This presentation will include live videos of microorganisms commonly found in the wastewater treatment process and will emphasize the positive role of these microorganisms in removing organic contaminants and describe some of the observed microbial responses to toxins in the wastewater.

AURALENE (TONI) GLYMPH-MARTIN**Biography**

Dr. Toni Glymph-Martin is a senior level supervisor in the Monitoring and Research Division of The Metropolitan Water Reclamation District of the Greater Chicago District with more than 35 years of water quality related experience. In addition she has 15 years of experience with the Wisconsin Department of Natural Resources and the Detroit Wastewater Treatment Plant, as well as 10 years of experience in Environmental Toxicology monitoring the impacts of wastewater discharges on receiving waters.

What Others are Saying:

Toni has gained national recognition as an expert in wastewater microbiology. Awards include: The State of Wisconsin John C. Brogan Award for Outstanding Environmental Achievement, The USEPA National “Spark Plug Award” and the prestigious George Bernauer Award.

Dr. Glymph-Martin is the author of *Wastewater Microbiology: A Handbook for Operators and A Wastewater Microbiology Laboratory Manual for Operators*.

WCC NON-TRADITIONAL CAREER EVENT ON FRIDAY, SEPTEMBER 23

On Friday, September 23, 2016, the Women Chemist Committee of the ACS Chicago Section will participate in a pre-dinner student poster session held at Loyola University in Chicago before the monthly meeting. Chemists with non-traditional careers will talk to students and dinner attendees about non-traditional chemistry career paths and the educational requirements needed. The setting will be casual and will be in the same area as the posters. Come and join us to learn about what working chemists can do with their chemistry degrees.

If you have an interesting career, let us know beforehand, and we would be pleased to have you join us and talk about it. If you plan on being a chemist, and you think that being a professor and a bench chemist are your only options, think again, and join us for an interesting evening!

For more information go to

<http://chicagoacs.org/index.php>



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monthly meetings



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2016 SIXTIETH ANNUAL SCHOLARSHIP EXAMINATION IN CHEMISTRY

SPONSOR: Chicago Section, American Chemical Society: High School Education Committee
HELD AT: North Central College on May 28, 2016
AWARDS: Funds are contributed by the chemical industry and by individuals.
 Teachers of a prize-winning student(s) will receive \$100.

PRIZE	WINNER	SCHOOL & TEACHER
FIRST \$5,000 AWARD	Karen Ge	Katharine Lynch Naperville North HS
SECOND \$3,000 AWARD	Yiyang Wang	Cheryl Rulis Oak Park and River Forest HS
THIRD \$2,500 AWARD	Jacob Mazur	Ramzi Farran Fenwick HS
FOURTH \$1,500 AWARD	Jonathon Banks	Cheryl Rulis Oak Park and River Forest HS
FIFTH \$1,250 AWARD	Grant Miller	Monika Langdon Maine South HS
MARIE LISHKA * \$2000 AWARD	Karen Ge	Katharine Lynch Naperville North HS
MARSHALL S. SMOLER** \$200 AWARD	Fiona O'Brien	Walt Kinderman Walter Payton College Preparatory HS
Bernard E. Schaar*** \$500 Chicago Chemists' Club Award	Fiona O'Brien	Walt Kinderman Walter Payton College Preparatory HS

*To the highest scoring female in the examination. This award honors **Marie Lishka**, who was an active Chicago Section member for many years. Additional funding for the Lishka award was provided in memory of **Stan Drigot**.

**To the highest-scoring Chicago Public High School Student. His sister, Rachel, established this award in 1972 in memory of Marshall S. Smoler. Mr. Smoler was for many years a chemistry teacher in the Chicago public schools.

*** To the highest scoring Chicago High School student. Mr. Bernard Schaar's widow established this award in memory of **Mr. Bernard Schaar**, long active in Chicago Section, American Chemical Society and the Chicago Chemist's Club.

HONORABLE MENTIONS LISTED IN ALPHABETICAL ORDER

(These students were the next highest performers)

Matthew Brun
 Allen Chen
 Patrick Gridley
 Benjamin Hafner
 Mark Heymann
 Maura Mulligan
 Ayush Pandit
 Matthew Roth
 James Royal
 Venkat Shashank Vege
 Hannah Wander
 Rachel Wander
 Allison Zhang

Loyola Academy
 Naperville Central HS
 New Trier Township HS
 Latin School of Chicago
 Highland Park HS
 Hinsdale Central HS
 Oak Park and River Forest HS
 New Trier Township HS
 Naperville Central HS
 Metea Valley HS
 Highland Park HS
 Highland Park HS
 James B. Conant HS

A total of 85 students took the 2016 ACS Scholarship exam. Each chemistry teacher could nominate two students.

Awards will be given to students at the ACS Education Night meeting at a time, date, and place to be determined. Award winners and their teachers will be contacted by the Chicago ACS office. All teachers and students are invited and encouraged to attend the ACS Education Night meeting. Teachers who attend the ACS Education Night meeting will receive CPDU credits. Teachers do not have to be ACS members to attend. Register online at <http://chicagoacs.org/meetinginfo.php?id=111&ts=1471023461>

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A special thank you to Dr. Paul Brandt, Chemistry Professor at North Central College, for his hard work and willingness to author the exam. Additional thanks go to those who helped to proctor the exam:

Mirachelle Anselmo
Cara Hoover
Amanda Rountree

FINANCIAL CONTRIBUTORS TO THE SCHOLARSHIP EXAM ARE: ACS Chicago Section, Stan Drigot, Dr. Henry M. Walton, Chicago Chemists' Club, and Rachel Smoler.

CHICAGO SECTION 2016 ELECTION SLATE

The following slate of candidates was put together by the Nominating Committee for the 2016 Section Election. New officers will take office January 2017. Please remember to cast your votes.

OFFICERS:

CHAIR-ELECT

Paul Brandt
Anthony Toussaint

VICE-CHAIR

Russell Johnson
Michael Koehler

TREASURER

Mark Kaiser
Susan Shih

SECRETARY

Josh Kurutz
Rebecca Weiner

DIRECTOR

Irene Cesa
Louis DeFilippi*
Joseph Golab
William Hayward
Ilana Lemberger*
Timothy Marin
William Gary Roby
Anthony Sommese
Bernard Santarsiero
Donald Wink

COUNCILORS

Ken Fivizzani
Fran Kravitz*
Avrom Litin
Barbara Moriarty*

ALTERNATE COUNCILORS

Irene Cesa*
Omar Farha
Mark Kaiser*
Josh Kurutz*
Ilana Lemberger
Carmen Marquez
Donald Wink

*Incumbents

2017 APPROVED CHICAGO SECTION BOARD MEETING AND MONTHLY MEETING DATES

Board Meeting

Thursday, January 12, 2017
Thursday, February 9, 2017
Thursday, March 9, 2017
Thursday, March 30, 2017
Thursday, May 11, 2017
Thursday, June 8, 2017
Thursday, August 3, 2017
Thursday, September 7, 2017
Thursday, October 19, 2017
Thursday, November 9, 2017
Thursday, December 14, 2017

Monthly Meeting

Friday, January 20, 2017
Friday, February 17, 2017
Friday, March 17, 2017
Friday, April 21, 2017
Friday, May 19, 2017
Friday, June 16, 2017

Friday, September 15, 2017
Friday, October 20, 2017
Friday, November 17, 2017
Friday, December 15, 2017

TOBIN MARKS WINS THE 2017 PRIESTLY MEDAL

The Priestly Medal is the highest award given by the ACS and awarded for distinguished service in the field of Chemistry primarily as a lifetime achievement. It was first awarded in 1923 to Ira Remsen (and given every three years until 1944 whereupon it became an annual award) and was awarded to Mustafa A. El-Sayed in 2016. This year the awardee is Tobin Marks of Northwestern University. Dr. Marks follows in the footsteps of other Chicago Section awardees Ernest Volwiler (Abbott Labs), Hermann Schlesinger (U. Chicago), Harold Urey (U. Chicago), Herbert Brown (U. Chicago), Robert Mulliken (U. Chicago), Henry Taube (U. Chicago), Harry Gray (PhD at Northwestern U.), Fred Basolo (Northwestern U.), and Peter Stang (BS at DePaul U.).

Dr. Marks, the Vladimir Ipatieff Professor of Catalytic Chemistry, is renowned for his work on catalysts using synthetic organo-f-element and early-transition metal organometallic chemistry. He will win this award for "pioneering research in catalytic polymerization, organometallic chemistry, organic optoelectronic materials, and electronically functional metal oxides." For the C&ENews article, please see <http://cen.acs.org/articles/94/web/2016/06/Tobin-Marks-wins-2017-Priestley.html>.

ACS CHEMICAL LANDMARK AT THE UNIVERSITY OF CHICAGO

The University of Chicago has set October 10 as the date for the designation of "ACS Chemical Landmark" status for Willard Libby and Radiocarbon Dating at the University of Chicago. The ACS grants Landmark status to seminal achievements in the history of the chemical sciences. The ACS will present an historical marker to the University and will publish a commemorative booklet and webpage as a record of the achievement. The National Historic Chemical Landmarks (NHCL) program was established in 1992. Three other local institutions have received such status in the past: UOP Riverside Laboratory (Honeywell UOP in McCook), Sohio Acrylonitrile Process (Ineos in Naperville), and Alice Hamilton and the Development of Occupational Medicine (Jane Adams Hull-House Museum at UIC). For more information on the NHCL, visit <https://www.acs.org/content/acs/en/education/whattischemistry/landmarks.html>

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DUTIES OF SECTION COUNCILORS EXPLAINED

This is an updated reprint of an article appearing in the April 1997 issue of the Chemical Bulletin. The article is updated annually to help you with your decisions in electing councilors and alternate councilors in the upcoming Chicago Section election. **Remember to cast your vote.**

Have you ever wondered who and what ACS councilors and alternate councilors are and what they do for you and the Chicago Section? The two major structural components of the Society besides your national officers and Board of Directors are local sections and divisions. ACS local sections and divisions not only elect their own officers, but also elect representatives to the ACS Council, the deliberative body of the Society. This is your opportunity to have a voice in Society's governance.

The Council consists of the President, the President-Elect, the Directors, the Past Presidents, the Executive Director, the Secretary, and more than 400 voting Councilors representing Local Sections and Divisions. The Council convenes twice a year at the Society's national meetings.

Councilors provide the principal contact between local section members and governance leaders in setting policies for the ACS that directly or indirectly affect you. Councilors are elected to serve a three-year term. Alternate Councilors represent the section when a Councilor is unable to attend a Council meeting.

Councilors also serve on National committees that meet during National meetings. Councilors are appointed to these committees by the President of the Society and are eligible to serve only three consecutive terms on the same committee. A councilor who accepts an appointment to a committee accepts an obligation to work year-round throughout that term. The Councilor is expected to attend meetings of the committee, and be willing to undertake special assignments that require time between meetings.

Committees of the Council are: 1) Standing Committees: Constitution and Bylaws, Divisional Activities, Local Section Activities, Meetings and Expositions, Membership Affairs, and Economic and Professional Affairs; 2) Society Committees: Budget and Finance, and Education; 3) Joint Board-Council Committees: Chemical Abstracts Service, Chemistry and Public Affairs, Chemists with Disabilities, Community Activities, Environmental Improvement, International Activities, Patents and Related matters, Professional Training, Public Relations and Communications, Publications, Science, Minority Affairs,

Chemical Safety, Women Chemists, and Younger Chemists; 4) Other Committees of the Council: Analytical Reagents, Ethics, Nomenclature, Project SEED, and Technician Affairs; and 5) Elected Committees: Council Policy, Nominations and Elections, and Committee on Committees.

The Chicago Section is currently represented by 10 councilors elected by you. All of these councilors are members or associates on National ACS committees. Your Chicago Section Councilors and their current committee appointments are: **Charles E. Cannon** (Local Section Activities), **David S. Crumrine** (Constitution and Bylaws), **Russell W. Johnson** (Chemistry and Public Affairs), **Mike Koehler** (Chemical Safety), **Fran Kravitz** (Local Section Activities), **Margy Levenberg** (Meetings and Expositions), **Milt Levenberg** (Public Relations and Communications), **Inessa Miller**, **Barbara E. Moriarty** (Divisional Representative on Science), and **Susan Shih** (Education; Great Lakes Regional Meeting Secretary).

Alternate Councilors for the Chicago Section are: **Amber Arzadon**, **Mary Jo Boldingh**, **Irene Cesa** (Chemical Safety), **Thomas Higgins** (Education), **Mark Kaiser**, **Josh Kurutz**, **Katie Leach** (Younger Chemists), **Avrom Litin** (Analytical Reagents; Community Activities) and **Margaret Schott**.

Other Section members involved on National ACS committees are: **Linda Broadbelt** (Petroleum Research Fund), **Mark Cesa** (Science), **Lin Chen** (Publications), **Ken Fivizzani** (Community Activities), **Herb Golinkin** (Senior Chemists), **Lawrence Harding** (Petroleum Research Fund), **Lauren Jackson** (AGFD Divisional Representative on Science), **Gail Karet** (Nomenclature, Terminology and Symbols), **Zafra Lerman** (Chemistry and Public Affairs), **Michael Morello** (Meetings and Expositions), **Lisa Mueller** (Patents and Related Matters), **Xavier Pillai** (Patents and Related Matters), **Andrea Twiss-Brooks** (Council Policy), and **Don Wink** (Education). We have section members who are involved in other activities related to the National Meetings. For example, **Fran Kravitz**, **Charles Cannon**, and **Herb Golinkin** are career consultants who do resume reviews and mock interviews during National meetings. **Fran Kravitz**, **Charles Cannon** and **Katie Leach** are also career workshop instructors.

Your Councilors and Alternate Councilors ask for your help in providing your opinions about the Society and issues relating to the Society. This will help Councilors better represent you during Council.

FRAN KRAVITZ

CHEMISTRY MENTORS NEEDED IMMEDIATELY FOR BOY SCOUTS OF AMERICA CHEMISTRY MERIT BADGE PROGRAM

The Chicago Section of the American Chemical Society is currently seeking volunteers for its Boy Scouts of America Chemistry Merit Badge program. We need individuals to join us for lunch (noon to 1 p.m.) on either Saturday, October 8 at College of Lake County in Grayslake; Saturday, October 29 at Oakton Community College in Des Plaines and Saturday, December 3 at North Central College in Naperville to discuss their chemistry career. Volunteers can be either active or retired chemists or chemical engineers in the industrial, government or academic sectors or be a graduate student. Scouts will be divided into small groups of 4 to 5 scouts per table during lunch. Volunteers are asked to describe their career and general information about careers in chemistry including educational requirements. Lunch consisting of cheese pizza, dessert and beverage will be provided. We are seeking at least ten volunteers at each location. Additional information about each location will be sent to volunteers that sign up for this activity. Please contact Fran Kravitz immediately at fk1456@sbcglobal.net if you are available to help with this very valuable educational Chicago Section program. We need to make sure that we have enough volunteers at each location. Please put "BSA Chemistry Merit Badge Program" on the subject line.

The mission of the Chicago Section of the ACS is to encourage the advancement of chemical sciences and their practitioners.

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Contact the Section office at 847-391-9091 or email at chicagoacs@ameritech.net about advertising your business.

SOMEONE YOU SHOULD KNOW



Margaret Schott has been a member of the Chicago Section for over ten years. Peggy, as she is known to us, has been part of the Board since 2011. The Section can always depend on her for ideas for monthly presenters, volunteers from Northwestern University and to step in as an emergency presenter herself. She has been secretary twice and a director twice. Peggy is a very diligent and detail-oriented person. You never have to worry that a task will not be completed on time. Instead, she usually completes a project early and does much more than the average volunteer. I have always found her easygoing and very patient with students especially when she has been a mentor for our Marie S. Curie Girl Scout Chemistry Day program. To this day, I don't ever remember Peggy saying no to any request. She is a treasured member of our Section.

Margaret Schott was born and raised in Fanwood, New Jersey which is an hour's drive away from New York City. She is the second eldest of a family of five children. Her mother was a nurse and her father was a senior technical aid at Bell Telephone Laboratory for nearly forty years after having served in the Navy during WWII. He worked with a PhD physicist on light-wave telecommunications. Peggy visited her father's laboratory many times and recalls him pointing out to the family a "female PhD" in the 60s. Bell Labs in those days would have family days where they got to see the latest technology developments. She feels her decision to study science was influenced by her father and also by a high school biology teacher.

Peggy graduated from Scotch Plains-Fanwood High School in 1973 and planned on studying biology. After a couple of years in college, she found biology required too much memorization and switched her major to chemistry, which was more conceptual and kept building in complexity. She also loved math which attracted her to organic chemistry. Peggy enjoyed learning how chemistry was relevant in the world around us. She graduated from The College of William and Mary in Virginia with a BS in Chemistry in 1977. Her next stop was Northwestern University, where she earned her PhD in Organic Chemistry under the mentorship of Prof. Robert L. Letsinger in 1982. Her thesis, titled "Phenanthridinium Derivative of Dinucleotide," described the chemistry of forming internucleotide linkages, which nowadays is an automated process performed on DNA synthesizers.

Peggy has worked in many different positions. She worked for The Dow Chemical Company for nine years after completing her PhD, followed by five years at the National Institutes of Health – National Cancer Institute, and finally Georgetown University – Lombardi Cancer Institute. In 1998, Dr. Schott joined the religious order of the Dominican Sisters of Sinsinawa, WI and was a member of the order for nine years. During that time, she earned a MA at Aquinas Institute of Theology and worked on theological research. Peggy taught undergraduate chemistry at Dominican University from 2002 to 2007 and joined Northwestern University's Department of Chemistry in 2008 as a Senior Research Associate and Personal Assistant to Professor Sir Fraser Stoddart. Dr. Schott spends her days managing the operations of the research group which is comprised of 30 postdocs and graduate students. This has been her favorite position because she gets to work with young people and brilliant faculty while immersed in science. She states that it is very gratifying when a student lands a terrific job or academic position after completing their time in the research group. She also enjoys editing scientific manuscripts with an 'eagle eye'.

Peggy has been an ACS member for around 38 years. Her college research advisor encouraged her to join, and she became active in the leadership of the Student Chapter. She was active in the Associated Colleges of the Chicago Area/Chemistry Section, where she has participated in chemistry demo workshops and organized a seminar course on Green Chemistry in 2003. Peggy is also active in our local section and has presented one paper at an ACS national meeting in Denver of 2015 for the HIST Division. Her position keeps her back at Northwestern University so that her boss

Dr. Stoddart can attend.

Peggy is an amateur violist and enjoys playing chamber music in a string quartet that meets weekly in Evanston. In addition, she attends adult music camp at the Interlochen Center for the Arts in Interlochen, MI for a week every summer. She has performed for several years in the pit orchestra for the annual production of Gilbert & Sullivan operettas with the Savoyaires of Evanston. After breaking her wrist last summer, she took up the piano for the very first time. One fact that not many know is that she earned a certificate from the Chicago School of Woodworking for completing three basic courses.

Peggy's final words of wisdom to all of us are her motto: Learning chemistry can be difficult, but stick with it until it becomes really interesting!

Fran Kravitz

BASOLO MEDAL LECTURE

Dr. Susumu Kitagawa from the Institute for Integrated Cell-Material Sciences (WPI-iCeMS) at Kyoto University, will be awarded the Basolo Medal at Northwestern University on Friday, October 7. The title of his talk is: Discovery and Development of Functional Porous Coordination Polymers / Metal-Organic Frameworks. Dinner reservations can be made at <http://chicagoacs.org/meetinginfo.php?id=112&ts=1471031434> by Monday, October 3.

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<https://www.youtube.com/user/AmerChemSoc>

"CHEM SHORTS" For Kids

Packing Peanuts

Have you noticed that packing peanuts look different? Sometimes they are different colors (but that's just because they add some color to the material in the peanut). The ones that are really different exist because they are made out of two very different materials. The original peanuts were made out of polystyrene. Polystyrene, or styrofoam, is a polymer, a molecule made up of lots of smaller styrene molecules. Styrene is made from petroleum oil meaning that it is made from carbon and hydrogen atoms. The newer peanuts are made from starch and consist of atoms of carbon, hydrogen, and oxygen. Starch is also a polymer made up of many glucose, or simple sugar, molecules. How can we tell the difference between these two?

Materials:

Packing peanuts (styrofoam and starch)
– a styrofoam egg carton will also work
A cup of water

A ¼ cup of fingernail polish remover (in a nonplastic container)

If you don't have fingernail polish remover, gasoline will also work. You may want to use the fingernail polish remover or gasoline outside where the fumes are not confined to inside the house. Have an adult help you with this part of the experiment.

Aluminum foil

Look closely at the peanuts and see the difference between them. You will notice that the styrofoam is a smooth peanut while the starch peanut is rougher on the edges. There is a more fun way to see the differences however. Place the peanut in some water. The styrofoam peanut will float and not interact with the water at all whereas the starch peanut will float but will also slowly begin to dissolve and get all sticky. This is because the oxygen and the hydrogen in the starch form interactions with the water molecules called Hydrogen Bonds. These interactions are strong enough that the water really likes to surround the starch molecule which is the beginning of dissolving the starch. On the other hand, water really doesn't like to surround carbon-hydrogen bonds and so it repels the styrofoam peanuts. Now try the peanut in some fingernail polish remover. You will notice that the styrofoam peanuts really like to be surrounded by the acetone molecules in the fingernail polish remover, much more so than the starch peanuts. Look closely and you will see bubbles escaping the styrofoam pea-

nuts as the peanuts melt into the acetone. The bubbles arise from the trapped air in the peanuts and is what makes them so good for packing. The air makes the peanuts very light and squishy so that they can absorb the shock when a package is dropped. It is amazing how many of the Styrofoam peanuts will go into the small amount of fingernail polish remover.

If you pour off the liquid from the melted styrofoam and put the melted styrofoam on some aluminum foil and allow it to dry you will notice that the polymer changes the way it feels – allow the liquid to evaporate outside. It is now a hard plastic more similar to other polystyrene polymers like CD cases and plastic tableware. Other polystyrene polymers have a recycling code number "6".

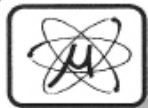
If you are interested in the environmental aspects of the peanuts and are looking to compost or recycle them, please visit <http://www.arttec.net/SustainableLiving/index.html> and see the short article on Packing Peanuts.

THE CHEMISTRY OLYMPIAD STARTS IT OFF FOR THE SUMMER OLYMPICS!

The 48th International Chemistry Olympiad was held in Tbilisi, Georgia, July 23 - August 1, 2016. **Alex Liu** of The Village School, TX won a gold medal while Joyce Tian of Thomas Jefferson High School for Science and Technology, VA and **Kevin Tang** of Solon High School, OH, won silver medals. Zilu Pan of Canyon Crest Academy, CA, won a bronze medal. The 2nd alternate to the team was **Harrison Wang** of Hinsdale Central High School, IL. Congratulations to Team USA!

**The Chicago Section's
e-mail address
is**

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CALENDAR

September 23 (note the date change):

Chicago Section Dinner Meeting with Dr. Toni Glymph-Martin at Loyola University. Additionally, a Women Chemists Committee (WCC), Non-Traditional Chemical Careers event will take place along with Student Posters and Scholarship Presentations. This is Education Night. For more information, visit <http://chicagoacs.org/meetinginfo.php?id=112&ts=1471031434>

September 24: Family Science Expo

at the Des Plaines Public Library. <http://dppl.org/guides/kids/family-science-expo>

October 7 (note the date change):

Basolo medal lecture with Dr. Susumu Kitagawa at Northwestern University. See details in this issue.

October 7-8: Illinois Science Education Conference, Peoria Civic Center.

For more information, visit <http://ista.wildapricot.org/conference>.

October 7-8: MACTLAC Annual Meeting

at St. Benedict and St. John's University. This year's theme is *Re-imagining Chemistry: Innovations in Undergraduate Chemistry Curricula*. For more information see details at <http://campus.albion.edu/mactlac/>

October 8, October 29 and December 3:

Volunteers needed for the Chicago Section ACS Boy Scout of America's Chemistry merit Badge program, noon to 1 p.m. on either Saturday, October 8 at College of Lake County in Graylake; Saturday, October 29 at Oakton Community College in Des Plaines; and Saturday, December 3 at North Central College in Naperville to discuss their chemistry career. Contact Fran Kravitz at fk1456@sbcglobal.net if you are available to help. See article in this issue.

October 10: National Historic Chemical Landmark designation

for Willard Libby and Radiocarbon Dating at the University of Chicago

October 25-28: Laboratory Management Conference

sponsored by The Association of Laboratory Managers (ALMA), Nashville, TN. See details at <http://labmanagers.org/2016-annual-conference/>.

Do Away with Vacuum Pump Oil Mist with MV Oil Mist Eliminators

High-Capacity Oil Mist Eliminator for Vacuum Pumps.



MV VISI-MIST Oil Mist Eliminator for Smaller Pumps

- ❑ Removes oil mist from vacuum pump exhaust
- ❑ Protects clean rooms from pump vapors
- ❑ Coalescing filters drain oil into a reservoir for easy recovery
- ❑ Keeps oil residue from sticking to furniture, walls and floors

Vacuum pump oil mist contaminates the surrounding air, settles on surfaces and you breathe it. Eliminate this problem by installing MV oil mist eliminators on your vacuum pumps. It will save you time and money.

The high-capacity oil mist eliminator is made of stainless steel and is designed for large vacuum pumps. It measures only 10" dia. x 13.5" high. The coalescing filter elements remove oil mist at 0.1 micron with an efficiency of 99.999%.

The MV Visi-Mist eliminates oil mist and is designed for smaller vacuum pumps. Contact MV Products for the oil mist eliminators best suited for your requirements. They install in minutes and require little maintenance.

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