

The Chemical Bulletin

<http://chicagoacs.org>

DECEMBER • 2012

CHICAGO SECTION AMERICAN CHEMICAL SOCIETY Joint Meeting with Chicago Chemists' Club and Iota Sigma Pi HOLIDAY PARTY/MEETING FRIDAY, DECEMBER 14, 2012

Fountain Blue Banquets
2300 Mannheim Rd.
Des Plaines, IL
(847) 298-3636

DIRECTIONS TO THE MEETING

From I-290 East/West

Take I-290 from either direction and exit onto I-294 North. Continue until you reach the exit for I-190 West (to O'Hare). Exit and immediately pay toll. Exit onto Mannheim Road North. Go North for 2 miles to Fountain Blue.

From I-90 East/West

Take I-90 from either direction and exit onto I-190 West (to O'Hare). Pay toll and immediately exit onto Mannheim Road North. Go North for 2 miles to Fountain Blue.

From I-294 North/South

Take I-294 from either direction and exit onto I-190 West (to O'Hare). Pay toll and immediately exit onto Mannheim Road North. Go North for 2 miles to Fountain Blue.

From I-88 East

Take I-88 East to I-294 North. Take Touhy Avenue exit and go west to Mannheim Road. Turn north on Mannheim and proceed to Fountain Blue.

PARKING: Free

This is the Chicago Section ACS/Chicago Chemists' Club/Iota Sigma Pi Annual Holiday Party/Meeting. Come join in the celebration with all your fellow chemists and friends. In addition to our technical program, there will be gifts! ENJOY!

We ask you to also bring a gift! Please bring some canned food or other non-perishable food items (in non-glass containers), clothing, or toys that we, as the ACS, can donate to charities for needy people in the Chicagoland area. See article on

page 4. Let's share our good fortune in the spirit of the season. THANK YOU!!

JOB CLUB 5:30 - 6:30 P.M.

SOCIAL HOUR 6:00- 7:00 P.M.
Cash Bar
Complementary Hors D'oeuvres

DINNER 7:00 P.M.

CHANGING OF THE GAVEL 8:10 P.M.
Outgoing Chair Avrom Litin will turn over the gavel to the incoming 2013 Chair, Michael Koehler.

GENERAL MEETING 8:15 P.M.

After-Dinner Speaker



Matt Young, Lead Scientist, Half Acre Beer Company, Chicago, IL

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*(continued from page 1)***Title of Talk and Abstract:**

Will be posted on the section's website when available.

Biography: Matt Young is a professional brewer and cellarman at the Half Acre Beer Company in Chicago, IL. His interest in the flavors and culture of craft beer intensified when he enrolled in a course on the history and science of beer and homebrewing at his undergraduate institution, Western Kentucky University.

Following college, Matt moved to Chicago to pursue a Ph.D. in biomedical sciences at Northwestern University. At Northwestern, in the lab of Dr. Jason Brickner, Matt explored the spatial organization of genes in the nucleus of the budding yeast *Saccharomyces cerevisiae*. It was not a coincidence that Matt chose to study the biology of the primary organism responsible for fermenting beer – it was all part of his subconscious plan to land a job in a brewery! And he did it!

Two years into grad school Matt decided to secretly apply for a job at Half Acre. He was hired, and left Northwestern to clean kegs at the brewery. Fortunately, he was awarded a Master's degree for his time spent in school. Now two years into brewery life, Matt spends his days brewing beer and managing the fermentation program at Half Acre.

DID YOU KNOW?

For undergraduate students and graduate students:

ACS utilizes [undergrad.ACS.org](http://www.undergrad.acs.org) as well as [GradStudent.ACS.org](http://www.gradstudent.acs.org) to help recruit undergraduates, graduate students and postdocs.

DINNER INFORMATION

Dinner reservations are required and should be received in the Section Office via **phone** (847-391-9091), **email** (chicagoacs@ameritech.net) or **website** (<http://chicagoacs.org>) by noon on Tuesday, December 11.

Holiday Menu: Choice of Chicken Picciatta, Broiled White Fish, or Vegetarian Pasta Primavera with Alfredo Sauce; Fresh Fruit Cocktail; Garden Salad with a variety of dressings; Included with the chicken and fish entrees are Potatoes and a Peas, Mushrooms & Carrots Medley; Chocolate Sundae; beverage; bread and butter.

The cost is \$35 to Section members who have paid their local section dues, members' families, and visiting ACS members. The cost to members who have NOT paid their local section dues and to non-members is \$37. The cost to students and unemployed members is \$18. Seating will be available for those who wish to attend the meeting without dinner. PLEASE HONOR YOUR RESERVATIONS. The Section must pay for all dinner orders. No-shows will be billed.

25TH ANNIVERSARY OF NATIONAL CHEMISTRY WEEK

Two new videos celebrating the 25th Anniversary of National Chemistry Week (NCW) are available at www.BytesizeScience.com. One video is a new episode of ACS' award-winning Bytesize Science series. It highlights research behind this year's NCW theme — nanotechnology. The second video is a retrospective on the history of NCW and its 25-year legacy of exciting the public about chemistry.

LABORATORY MANAGEMENT TIP¹**What's the Difference Between Managing and Leading?**


In an article entitled "Understanding the Difference Between Management and Leadership" (*Research Technology Management*, 43, 2000, p.57), Michael Maccoby points out that management is a function whereas leadership is a relationship. This distinction becomes very important in today's flattened organization since management tasks can be effectively delegated but leadership cannot. For example, team members can take on management functions such as planning, budgeting, monitoring quality, dealing with suppliers, etc. but the organization needs a leader to envisage the organization's future, invest the resources to create it, and lead the workforce to implement it.

As managers, many of us prefer to spend our time engaged in the management tasks that produce physical output and provide a sense of accomplishment at the end of the day whereas time spent in leadership activities such as talking to the staff are often viewed as unproductive or unrewarding. But consider the case of the GE/Durham plant that assembles engines for the Boeing 777 where management functions have been delegated to worker teams so that there is only one manager for 170 employees. The simple fact is that these administrative skills are relatively common and there are usually several people in the organization who can do them as well as the manager.

The real value that a successful manager brings to the organization is leadership—the soft side of the job. The manager's job is listening, informing, focusing the teams on objectives, and representing the lab to the customer and within the company. There are four things that a leader can do to make an organization successful—selecting talent, motivating people, coaching, and building trust. As lab managers, it is worth reflecting on how much of our time we spend on these leadership activities versus the administrative tasks in judging our own worth to our organizations.

Contributed by Wayne Collins, Ph.D., World-Wide Marketing Manager-Energy & Chemicals| Agilent Technologies, Chemical Analysis Group

¹<http://www.labmanagers.org/content.php?page=MonthlyManagementTip>



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"CHEM SHORTS" For Kids

The Elementary Education Committee of the Chicago Section ACS presents this column and hopes it will reach young children and help increase their interest in science. Please print it out and pass it on to your children, grandchildren, or elementary school teachers. Teachers are encouraged to incorporate the projects in this column into their lesson plans.

Rainbow in a Glass

Kids, can you imagine drinking a rainbow? In this experiment based upon the principle of density, you can! All that you'll need is four glasses of the same size, sugar, water, and food coloring.

Put three tablespoons of water into each of four of the glasses. Next add one drop of food coloring to each glass, using a different color for each glass. Then mix in one tablespoon of sugar into the first glass, two into the second, three into the third, and four into the fourth.

Each of the glasses of sugar water will have a different density. The one with the most sugar will be the most dense (thick or heavy), so use that as your main glass. Slowly and carefully, over the back of a spoon, pour the next-dense liquid (the one with 3 tablespoons of sugar) onto the most dense layer. Repeat this careful pouring process until all of the liquids are layered on top of each other, with the least dense layer (the one with only one tablespoon of sugar) on top.

Most density experiments use liquids such as oil, water, alcohol, and cream because they are easier to keep separate (see ChemShorts Jan 1999 for examples). As you can see during this experiment, though, just using different densities of sugar water is enough. Eventually, through the random mixing of molecules, and unlike oil and water, the different layers in this experiment will easily mix. Therefore you have to pour or drink carefully. Still, this is an easily drinkable rainbow — if you have a fondness for sugar.

NOTE: While this may seem like a lot of sugar in one glass if actually consumed, consider that a single can of regular soda has the equivalent of about 10 teaspoons of sugar. (http://wiki.answers.com/Q/How_many_teaspoons_of_sugar_are_in_coke)

References:

Esther Inglis-Arkell, <http://io9.com/5952380/make-a-drinkable-rainbow-in-a-glass>; she also describes using Skittles as a colored-sugar source. Many thanks also to Milt Levenberg for this idea.

Submitted by DR. KATHLEEN CARRADO GREGAR

To view all past "ChemShorts for Kids" go to:

<http://www.chicagoacs.net/ChmShort/kidindex.html>



CHICAGO SECTION AMERICAN CHEMICAL SOCIETY
1400 RENAISSANCE DR. SUITE 312, PARK RIDGE, IL 60068



MARIE ANN LISHKA MEMORIAL SCHOLARSHIP

On December 20, 1993, Marie Ann Lishka, a colleague, friend and a confidant to many of us, died very suddenly. She will always be remembered for her vitality and commitment to the American Chemical Society, her community, friends and her family. Not a day goes by that any one of us doesn't remember something special about Marie.

Memories sometime fade with time. Her dedication to both the Chicago Section and the Society has provided others with a role model. Friends and members of the Chicago Section have established a memorial scholarship to preserve the memory of Marie Ann Lishka.

The purpose of the "Marie Ann Lishka Memorial Scholarship" is to be a tribute to the memory of Marie Ann Lishka, chemist, Chicago Section ACS member, Councilor and Board Member, for her dedication and commitment

to the Section, the Society and her community. This scholarship will be awarded annually to the highest scoring female high school student selected from the Chicago Section annual High School Chemistry Exam.

The student must have plans to major in chemistry or science. The amount of the scholarship will be determined based on donations collected to endow this scholarship.

At this time, we ask you to consider donating money to endow the "Marie Ann Lishka Memorial Scholarship". This can be done by making a check payable to the Chicago Section ACS, completing the coupon below and mailing the check and the coupon back to the "Marie Ann Lishka Memorial Scholarship", Chicago Section ACS, 1400 Renaissance Dr. Suite 312, Park Ridge, IL 60068

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DECEMBER HOLIDAY PARTY

Get ready and make reservations for the annual Chicago Section's ACS holiday party on Friday, December 14. Gifts for the raffle will be numbered randomly and placed on side tables in the dining room. Each attendee will draw a number when they register that evening for the meeting.

Gifts will be handed out throughout the evening by calling up groups of individuals having a series of numbers. Meeting attendees are asked to claim their gift only during the time their numbers have been announced. Those individuals who forget to claim their gift will have another opportunity to claim them at the end of the evening. Individuals must present their number in order to pick up their gift.

Door prizes of wine will only be handed out to those 21 or older. A substitute prize will be handed out to students under the age of 21. As always, please do not open your wine at the table.

RICHARD CORNELL
HOSPITALITY CHAIR

FOOD AND TOY DRIVE

We will be collecting nonperishable food items (no glass containers) for charity at the December Holiday Party again. The food is donated to the local Loaves and Fishes Community Pantry for distribution. Loaves & Fishes Community Pantry is a community-based, non-profit organization established to provide food and personal care essentials to residents in need.

We will also continue our toy drive to collect children's toys for toddlers to 12 year olds. The toys will be donated to a local Silent Santa program.

Please open your heart to both of these programs and bring a nonperishable food item and a new toy to the holiday party.

NOTICE TO ILLINOIS TEACHERS

The Chicago Section ACS is an ISBE provider for professional development units for Illinois teachers. Teachers who register for this month's meeting will have the opportunity to earn CPDU's.

PROJECT SEED 2013

Applications are now being accepted to participate in the 2013 ACS Project SEED Program. The Project SEED Program places economically disadvantaged high school students in academic, industrial, and governmental research laboratories during the summer. Under the supervision of volunteer scientists, students work on projects that expose them to the chemistry environment.

For additional information, visit the Project SEED website at www.acs.org/projectseed. The application deadline is January 31, 2013. If you have any questions, please e-mail projectseed@acs.org, call (800) 227-5558, ext. 4380 or contact Tracy Braun, our section's Project SEED chair, at tracey.braun@gmail.com.

FREE ACCESS TO FIRST ARTICLES FROM ACS SUSTAINABLE CHEMISTRY & ENGINEERING

ACS Sustainable Chemistry & Engineering, the new peer-reviewed journal dedicated to advancing sustainable processes, is offering free access to the first papers published by the journal at pubs.acs.org/acssce. The journal will address research in the areas of green chemistry, green engineering, and the grand challenges for sustainability in chemistry and chemical engineering. ACS Sustainable Chemistry & Engineering will publish Vol. 1 in January 2013.

Visit the ACS Sustainable Chemistry & Engineering home page to learn more and submit your research today.

COME ONE, COME ALL!

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Undergraduate student membership	\$47

To get the most up-to-date information about chemistry activities in and around Chicago; meeting information (local, regional, and national), and fun facts about chemistry, visit the Chicago Local Section website at www.chicagoacs.net and follow us on:

- Facebook (<http://www.facebook.com/ChicagoACS>)
- Twitter (<http://twitter.com/#!/ChicagoACS>)
- ACS Network (<https://communities.acs.org/groups/chicago-section>)

Please contact the section office at 847-391-9091 about these and other benefits available to ACS members.

IN APPRECIATION OF DR. LEOPOLD MAY (1924-2012)

With regret, I report the passing of Leopold May, professor emeritus of chemistry at the Catholic University of America, collector of chemical anniversaries, and a featured contributor to *The Chemical Bulletin* since 2007 (the monthly Historical Events in Chemistry). For years, Dr. May gathered and generously contributed chemistry- and science-related trivia for the benefit of many programs of the ACS. Dr. May was a long-time ACS member and active in his local section, the Chemical Society of Washington.

Cherlyn Bradley

CHICAGO SECTION'S ELECTION RESULTS

The Tellers Committee met on Friday, October 19, 2012 at the Chicago Section ACS office to count the ballots for the 2012 election. There were 434 ballots received as of noon on that day. Of these, 421 valid ballots were counted. The following will assume their positions January 2013:

Chair-Elect:	Josh Kurutz
Vice-Chair:	Charles Cannon
Secretary:	Margaret Schott
Treasurer:	Amber Arzadon
Directors:	David Crumrine Inessa Miller Barbara Moriarty Carmen Marquez Cherlyn Bradley
Councilors:	David Crumrine Milt Levenberg Inessa Miller Ken Fivizzani
Alternate Councilors:	Margaret Levenberg Amber Arzadon

Thanks to all the candidates for participating and congratulations to the winners!

MICHAEL KOEHLER
Chair, Tellers Committee
2013 Section Chair

CHICAGO'S SPECIALTY CHEMICAL COMPANY PIONEERS (Part 4)

by Edward A. Knaggs

Ninol Laboratories (1939-1957)

Russian immigrant chemist, Dr. Wolf Kritchevsky, an expert on dyes, came to the United States in about 1920, and taught chemistry at the University of Wisconsin (4). He came to Chicago in 1923 and made connections at a small laboratory where he continued research on dyes and related subjects and established himself as a chemical consultant. His research work eventually led to obtaining patents on hair dyes (25), dye discoloration (26), and wood bleaching (27). He established Rit Products Company located at 1401 W. Jackson Blvd. in Chicago.

He joined Best Foods in 1928 in their Chicago laboratories where he continued to work on dyes and a variety of other products. In 1933, when reacting carboxylic acids with water soluble dyes containing free amine groups to convert them to oil soluble dyes, his studies on his own free time investigating reactions between fatty acids and alkylolamines, he discovered the fatty alkylolamides (4), and secured patents covering the process and their reaction products (28-32).

The condensation reaction products, made by heating (to over 140 degrees Celsius) one mole of alkylolamine with one mole of fatty acid (referred to as "1:1 Kritchevsky condensates"), were predominantly fatty amides that generally were 100% active oil soluble liquids. In the case of a 2:1 condensation reaction, the resulting fatty amides were 100% active water soluble liquid products (33). Subsequent studies indicated that the second mole of the alkylolamine wasn't simply a mixture, but it appeared to be hydrogen bonded with the fatty alkylolamide (33). Some of the 2:1 "Kritchevsky condensation" products (based on coconut fatty acids) exhibited unique foaming, foam stabilization (in the presence of soils) (34), detergency, and viscosity building properties (35). Hence these products which Kritchevsky named Ninols (after his wife's name Nina), would eventually find ready acceptance in household, personal care (4, 36) and industrial markets.

The 1:1 Kritchevsky Ninols soon became commercially important as dry cleaning detergents, while the 2:1 type fatty alkylolamides became important components in many liquid detergents and personal care products. Wolf Kritchevsky had some of these Ninols custom manufactured beginning in 1934, at W.S. Straub Company on Northwest Highway (4). He also secured patents on brushless shaving creams (37), and in ore flotation (38).

After Wolf Kritchevsky's death in 1939, his eldest son, Jerome Kritchevsky (a chemist) established Ninol Incorporated and leased a former Schönhafen Brewery building at 1719 S. Clinton Street where he installed an office, a chemical library and a new laboratory facility in 1940. He started manufacturing Ninols there and hired two chemists mostly to support the growing product line, and in synthesizing countless Ninol product variations and in evaluating their properties. Ninol's president, Jerome Kritchevsky and part-time consultant Dr. William Colburn would soon identify new marketing opportunities and respond rapidly. These included making hair curling permanent wave chemicals, electroplating brighteners and anti-mildew agents (39).

In 1945, synthetic dodecylbenzene alkylate became commercially available as an oleum sulfonation feedstock which made it possible for the major detergent companies ("soapers") to switch from soap based detergents to synthetic sulfonated products with improved performance. In 1947 stabilized liquid SO₃ became commercially available which appeared to have significant potential economic and processing advantages. Hence, major detergent, chemical and mechanical engineering companies worldwide started a competitive process development race. Since Ninol had an interest in oil soluble sulfonates, they too initiated SO₃ sulfonation studies.

Ninol hired Dr. Herbert Sanders, a prominent detergent chemist, as technical director and technical marketing manager. He soon identified the need for oil-in-water emulsifiers for the growing pesticide emulsifier market in 1950. In the course of these emulsifier studies, Ninol discovered a significantly improved and patentable emulsion system based on an oil soluble calcium dodecylbenzene sulfonate-nonionic blend. Ninol was able to rapidly convert some existing batch equipment for SO₃ sulfonation (41) and soon became a major emulsifier supplier, and obtained product patents (20, 40).

Also by 1950, consumer acceptance of liquid dish detergents (like Joy), which was a 60% active concentrate comprised of coconut fatty alcohol sulfate and lauric monoethanolamide (Ninol-type product) generated an immediate need for the merchant market. Consumer sulfonate color standards required Ninol to improvise and develop a solvent batch SO₃ sulfonation process which enabled them to produce

(continued on page 7)

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There are several Career Consultants in the Chicago Section who are willing to meet with you and help improve your resume. Simply call the Section office at 847-391-9091 and set up an appointment. Fifteen to thirty-minute sessions will be arranged at our monthly meetings. Should you require more time, arrangements can be made with your consultant to continue discussions by telephone, by e-mail or by additional face-to-face sessions. You also can attend the Section's Job Club where you can network with other people having similar concerns.

We are here to help. All you need to do is pick up the telephone and bring copies of your resume to the next monthly meeting.

(continued from page 6)

and market a comparable performing concentrate (39). Ninol management made a decision in 1953 to build a new manufacturing and lab facility at 1045 E.103 rd Street in Chicago in order to better meet customer demands and abandoned the 1719 S. Clinton location.

Ninol research chemists, E.A. Knaggs and M.L. Nussbaum, soon became aware of liquid SO₃'s awesome oxidative and charring properties, and its high heat of sulfonation and contemplated that perhaps these problems might be mitigated in a non-solvent process by gasifying and diluting the SO₃ in a dry air stream and conducting the sulfonation in a heat exchanger. Their collaborative efforts during 1955 and 1956 resulted in developing their falling film continuous SO₃ sulfonation process (42). After extensive pilot plant studies, a 10 million pound per year reactor system was designed and fabricated during 1956 (39, 42).

In 1957, Stepan Chemical Co. acquired Ninol Laboratories adding Ninol's \$ 4 million sales to Stepan's \$8 million sales thus bringing the combined company sales to \$12 million.

(4) Private communication on November 15, 1992 between Mr. Jerome Kritchevsky and the author discussing his father's life history.

(20) Sanders, H. L.; Knaggs, E. A.; Nussbaum, M. L. U.S. Patent 2,696,453, December 7, 1957.

(25) Kritchevsky, W. U.S. Patent 1,663,202, March 20, 1928.

(26) Kritchevsky, W. U.S. Patent 1,524,737, February 3, 1925.

(27) Kritchevsky, W. U.S. Patent 2,096,400, October 19, 1937.

(28) Kritchevsky, W. U.S. Patent 1,173,058, September 12, 1939.

(29) Kritchevsky, W. U.S. Patent 2,094,609, October 5, 1937.

(30) Kritchevsky, W. U.S. Patent 2,089,212, August 10, 1937.

(31) Kritchevsky, W. U.S. Patent 2,096,749, October 26, 1937.

(32) Kritchevsky, W. U.S. Patent 2,260,384, October 28, 1941.

(33) Kritchevsky, J. The Alkylolamines, J.A.O.C.S. 1957, 34, 178-81.

(34) Sanders, H. L.; Knaggs, E. A. Foam Stabilization of Alkylolamides. Soap San. Chem., 1953, 29, 45-8, 93.

(35) Sanders, H. L.; Knaggs, E. A. High Viscosity Detergent Solutions. Soap San. Chem., 1951, 27 131.

(36) Sanders, H. L.; Knaggs, E. A.; Libman, O. E. Alkylolamides in Shampoos. J. Soc. Cos. Chem. 1954, 5, 29

(37) Kritchevsky, W. U.S. Patent 2,167,180, July 25, 1939.

(38) Kritchevsky, W. U.S. Patent 2,173,909, September 26, 1939.

(39) Author's personal knowledge as a Ninol employee.

(40) Sanders, H. L.; Knaggs, E. A.; Nussbaum, M. L. U.S. 2,872,368, February 3, 1959. (Reissued July 24, 1956)

(41) More plant, low cost, Chemical Week, September 26, 1952.

(42) Knaggs, E. A. Development of Continuous Falling Film SO₃ Sulfonation Technology. Chemtech, 1992, 22, 436-448.

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CHICAGO CHEMISTS' CLUB

Club History

The Chicago Chemists' Club was chartered December 30, 1919 as a social organization to promote good fellowship among Chicago-area chemists. Through the years, the Club roster has included many prominent members of the chemical profession.

Social Events

The social calendar of the Chemists' Club includes ten dinner meetings per year where spouses and/or guests are welcome to attend. Meetings are usually on the second Wednesday of the month at various restaurants in the Chicago area featuring a variety of cuisines. We present timely, stimulating speakers in fields such as science, politics, medicine, etc., and also folk-singers, artisans and world travelers. In the spring the Club has a dinner-theater party. Each year, jointly with the ACS Chicago Section's Education Meeting, we present the Bernard Schaar Memorial Award to the first-place winner of the ACS high-school chemistry examination. The Club is also a co-sponsor of the ACS Chicago Section's annual Holiday Party in December.

Membership Benefits

Membership dues are \$25 per year. As a non-profit organization, the Club returns a portion of these dues to its members in the form of dinner price reductions.

Joining the Club

Membership is open to chemists, chemical engineers and allied scientists.

FREE T-SHIRTS

The Hospitality Committee raffles one T-shirt at each monthly dinner meeting. The shirt has CHICAgO spelled out using the periodic table. So come to a monthly meeting and maybe you'll win one!

WHEN YOU CHANGE YOUR EMAIL ADDRESS

Please let the section office know what your new email address is so that you will not miss any section information. Contact the office at 847-391-9091 or at chicagoacs@ameritech.net

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THE UN-COMFORT ZONE

with Robert Wilson

Play The "What If?" Game

With the publication of my humorous children's novel, *The Annoying Ghost Kid*, I have had the opportunity to go into elementary schools and teach kids a game that shows them how the creative process works. It's a great way to come up with story ideas for book and movies. But, it's not just for kids; adults can use it as a powerful innovation tool to make their businesses more competitive.

In the classroom, I begin by asking the students, "What if you found a hundred dollar bill?" That usually gets some "Oohs" and "Ahs." I follow up with, "What would you do with it?" That question usually gets me bombarded with a hundred answers at once. The next one I ask is, "What if you woke up this morning and a cuddly lion cub was sleeping at the foot of your bed?" The kids are excited by that idea, so I ask, "How did he get there?"

"What if everything you touched turned to chocolate?" Several kids always yell out, "Yum!" Then I ask, "What if you accidentally touched your best friend?" Oops! I continue to ask Who, What, When, Where, Why and How questions until they begin to see a story forming.

I then explain that this is how story ideas for books and movies are formed. So, they can see it for themselves, I ask them to identify the books and movies when I ask several more "What if?" questions. "What if a tornado picked up your house and carried it away while you were still in it?" The kids yell out, "The Wizard of Oz!" "What if your toys come to life when you're asleep at night?" And, they all answer, "Toy Story!"

I call it The What If? Game, and it can be used by both individuals and groups. I first started using it many years ago to write fiction. I would begin a story with an intriguing scene; for example, I might ask, "What if I woke up one morning, the birds singing outside, the warm sunlight coaxing my eyelids open to a room I'VE NEVER SEEN BEFORE?" I continue to build the scene by asking a few more, "What if I rolled over and found a DEAD BODY lying next to me?" and "What if there is a GUN in my hand?"

Once a suitable scenario is set up, I go back and fill in the blanks: "How did I get there? Who am I? Where am I from? What do I do for a living?" and, so on. Before long, I've written a book.

Now you can use this same Innovation Tool to generate new ideas for making your company more profitable or productive. Begin by considering one aspect of your business such as your typical customer, your location, or your products, and then change things around with your What If questions: "What if all my customers were Chinese?" (Maybe the demographics of your customers are already beginning to change and this will help you project where it might go.) "What if a twister picked up my building and dropped it completely intact on the other side of town?" (Maybe you're already thinking of expanding, and this will help you visualize the details.) "What if my product became obsolete overnight?" (Maybe you're already feeling the pinch of competition.)

Then answer the question as fully and completely as you can. See where it takes you. Do some research if necessary: "If all my customers are Chinese, then I'd better start learning their language and customs. I'll probably have to modify the way I market my business. I may even have to change things like my hours of operation..."

Are you seeing the beginnings of a new trend in your industry, the economy, or the population? Take it to the extreme with your What If questions and see what ideas pop up that you can use.

If your building landed in a new neighborhood, what would you have to do differently? If your product or service suddenly became obsolete, how would you stay in business? These two scenarios remind me of a story.

In the early 1980s I met a man who had bought a failing dry-cleaning business for very little money. It was failing because the demographics of the neighborhood had changed from white-collar to blue. With fewer business suits to be cleaned, the need for a dry-cleaner was shrinking. The enterprising new owner noticed -- not unexpectedly in a blue collar neighborhood -- that blue jeans were the pants of choice. He further noticed that when the residents dressed up, they still wore blue jeans... however, these were designer jeans (of course it was the fad at the time). Perhaps he asked the question: "What if the only thing to be dry-cleaned around here are blue jeans?"

(continued on page 9)

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IOTA SIGMA PI

Iota Sigma Pi is a national honor society for women in chemistry. Its major objectives are:

- to promote interest in chemistry among women students
- to foster mutual advancement in academic, business, and social life
- to stimulate personal accomplishment in chemical fields

It was founded in 1902 and was organized on a nation-wide basis in 1916. Over 10,000 members have been initiated into this organization. More than 40 local chapters have been established in various colleges, universities, and metropolitan areas. The Aurum Iodide chapter in Chicago was established in 1939.

Iota Sigma Pi serves to promote the advancement of women in chemistry by granting recognition to women who have demonstrated superior scholastic achievement and high professional competence by election into the honor society.



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Project SEED Endowment Fund

The Project SEED program offers summer research opportunities for high school students from economically disadvantaged families. Since its inception in 1968, this remarkable program has had a significant impact on the lives of more than 8,500 students nationwide. The program places students in academic, governmental, and industrial laboratories to work under the supervision of a research scientist on projects that provide exposure to chemistry and science. Evaluation shows that Project SEED is successful in stimulating high school students' interest in science.

We ask you to consider donating money to the Chicago Section's Project SEED endowment fund to help raise \$2,000 to fund the stipend for one of our local high school students. This can be done by making a check payable to the Chicago Section ACS, writing "Project SEED fund" on the memo line, completing the information below, and mailing the check and this form back to the "Project SEED Endowment Fund", Chicago Section ACS, 1400 Renaissance Dr. Suite 312, Park Ridge, IL 60068. THANK YOU!!

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UN-COMFORT ZONE (continued from page 8)

How would you answer that question? This creative entrepreneur answered it by advertising special discounts on dry-cleaning for designer jeans. He put up signs suggesting that washing machines prematurely wore out jeans. And, before long business was booming and people were bringing in all their denim: shirts, jackets, even non-designer jeans. I visited the store once and the motorized oval rack, familiar to all dry-cleaning establishments, spun solid blue.

Try some more What If questions. "What if there were no clocks?" How would you know how long to stay at work? "What if you couldn't advertise?" How would you inform prospects about your business? "What if all your customers were blind?" How would you show them your products?

Try the game different ways. Here's one you can play it while sitting at your desk. Select two objects from your desk top... or two products that you sell... or two objects at random from a catalog, then invent something new by asking, "What if I combined my can of Diet Coke with my Mont Blanc pen?" (Would you have a fizzy fountain pen with drinkable ink?) Hey, weirder combinations have been made! After all, somebody once asked, "What if I combined a squirt gun with a butter plate?" and a thousand of Presto Hot Toppers® butter sprayers were sold at Christmas.

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 Robert Evans Wilson, Jr. is an author, humorist and innovation consultant. He works with companies that want to be more competitive and with people who want to think like innovators. Robert is also the author of the humorous children's book: *The Annoying Ghost Kid*. For more information on Robert, please visit <http://www.jumpstartyourmeeting.com>

SAFETY CULTURES IN ACADEMIC INSTITUTIONS

The Safety Culture Task Force of the ACS Committee on Chemical Safety (CCS) has published a 57-page report entitled *Creating Safety Cultures in Academic Institutions*. This report includes discussion of common issues with respect to the safety culture in colleges and universities. Several recommendations are made. Appendices list suggested duties of institutional personnel and chemistry-based technicians. The references (called Endnotes in the report) are a timely listing of resources for those working in academic safety areas. An electronic version of the report can be downloaded from the CCS website, www.acs.org/safety. A printed copy can be obtained from the ACS National Office, 1155 Sixteenth St. NW, Washington DC 20036.

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CALENDAR

December 6: Chicago Section ACS Board meeting, 1400 Renaissance Dr., Suite 312, Park Ridge, IL 60068; 847-391-9091.

December 14: Chicago Section ACS Holiday Party and Dinner Meeting, Fountain Blue Banquets, Des Plaines, IL. The speaker will be Matt Young, Half Acre Beer Company. See details in this issue.

January 17, 2013: Chicago Section ACS Dinner Meeting held jointly with AIChE. This is a Thursday meeting.

January 26: STEMfair at the Barrington High School. This Science, Technology, Engineering, and Math event will be from 10 am to 3 pm.

February 28: Chicago Section ACS Dinner Meeting. This is a Thursday meeting.

March 17-21: Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Pittcon 2013), Pennsylvania Convention Center, Philadelphia, PA. For additional information, visit the Pittcon website at www.pittcon.org.

March 22: Chicago Section ACS Public Affairs Dinner Meeting.

April 7-11: 245th ACS National Meeting & Exposition, New Orleans, Louisiana

December, 2012 Vol. 99, No. 10. Published by the Chicago Section of The American Chemical Society, Editorial Staff: Cherlyn Bradley, Editor; Fran Kravitz, Associate Editor; Richard Treptow, Proofreader. Address: 1400 Renaissance Dr., Suite 312, Park Ridge, Illinois 60068; 847/391-9091. Subscription rates: \$15 per year. Frequency: monthly-September through June.

THEMATIC PROGRAM FOR NEW ORLEANS MEETING COMBINES TWO INTER-DISCIPLINARY FIELDS OF CHEMISTRY

The theme for the upcoming 245th ACS National Meeting & Exposition in New Orleans (April 7-11, 2013) is "Chemistry of Energy & Food." Program topics will cover human health, complexity of food and bioenergy systems, sustainability, and the relationships between food and fuel.

Highlights of the New Orleans program will include the Kavli Foundation Innovations in Chemistry Lecture, by Prof. Daniel Nocera (Henry Dreyfus Professor of Energy and Professor of Chemistry, MIT) and will highlight research in making an artificial leaf. The Plenary session will feature four outstanding chemists from the energy and food sciences: Peter Schieberle (Institute for Food Chemistry, Technical University of Munich), John Floros (Dean, College of Agriculture, Kansas State University), Harrison Dillon (President and Chief Technology Officer, Solazyme, Inc.) and César Vega (Research Manager, Mars, Inc.).

Registration for the New Orleans meeting opens in December 2012; find links to registration, housing, and all the latest details on the meeting web site at www.acs.org/neworleans2013.

JOB CLUB

The next meeting of the Chicago Section **ACS Job Club** will be held on Friday, **December 14 at 5:30 p.m. at Fountain Blue Banquets**. The meeting will include a review and discussion of some of the tools that a chemist can use to conduct a job search.

The Job Club provides a continuing opportunity for unemployed members of the Section to meet with one another, share their experiences and develop a network that may help in identifying employment opportunities. Bring plenty of resumes and business cards to distribute to your colleagues. Be prepared to talk about the kind of job you are seeking.

Several participants have received outsource help with resume preparation and marketing strategies to present their best attributes to prospective employers. The group has critiqued some individual resumes and made suggestions for improvements in a positive way!

The Job Club is also for employers seeking chemists. Employers need to be prepared to describe the positions to be filled and requirements for these positions.

Should you wish to attend the Section's dinner meeting following the Job Club, the cost is \$18 and you can continue your networking activities. Please call the Section office for reservations and indicate that you are eligible for a discount.

Also, the Chicago Section's website has a link to the Job Club's yahoo job forum group. If you can't attend the Job Club, you can still find out about job openings and other information.

**REGISTER ONLINE for
Chicago Section
monthly meetings
www.ChicagoACS.org**

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

Have a Happy and Safe Holiday Season