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Chicago Section

The Chemical Bulletin

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FEBRUARY • 2010

CHICAGO SECTION AMERICAN CHEMICAL SOCIETY

Joint Meeting with the Illinois Institute of Technology Department of Chemistry Kilpatrick Lecture Banquet

FRIDAY, FEBRUARY 19, 2010

Illinois Institute of Technology
McCormick Tribune Campus Center
Auditorium and Ballroom
3201 South State Street
Chicago, IL

DIRECTIONS TO THE MEETING

The IIT McCormick Tribune Campus Center (MTCC) is at the NE corner of 33rd street and State Street. Our meeting space is in the SW corner of the MTCC.

(See page 2 for directions)

RECEPTION: **5:30 – 6:00 P.M.**

BANQUET: **6:00 – 7:00 P.M.**

Reservation details: Reservations can be made **online at http://www.iit.edu/csl/che/kilpatrick_lecture/**. A fee of $30 is required for the banquet. A personal check or money order must be received by Monday, February 15, 2010. **Please send your check, payable to Illinois Institute of Technology, to Mr. Todd Kersh, Department of BCPS, 3101 S. Dearborn St., Illinois Institute of Technology, Chicago, IL 60616.** Phone: 312-567-7986

(See page 2 for dinner meal)

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!

ACS EVENT
INTRODUCTION **7:30 – 7:45 P.M.**

KILPATRICK EVENING
LECTURE **7:45 – 8:30 P.M.**

Dr. Braja Mandal, Professor of Chemistry, Illinois Institute of Technology

Title: "An Excursion in Polymer Chemistry with Selected Highlights of the Last Half-Century"

Talk Abstract: In the past half-century, there has been remarkable growth in polymer science, from the development of convenient synthetic protocols for complex polymer architectures to novel monomers and new polymerization reactions. These advances have provid-

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See page 4 for information on the all-day program of the Kilpatrick Lecture symposium on February 19

In This Issue

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ed polymer chemists unprecedented confidence to realize the potential of synthesizing polymeric materials with intended properties and well-defined structures. These developments have provided indispensable building blocks in coping with myriad technological challenges of the future in all fields, from domestic, food, personal care, agricultural applications to microelectronics, automobiles, biomedical science and space research.

When it comes to telling this success story in a monograph or a handy quick guide to polymer synthesis for students and mentors, it seemed apparent that a comprehensive book was very desirable to describe recent achievements in this field. In order to meet this need, I have written a book, which presents the most up-to-date developments in polymer chemistry with special emphasis on synthesis of specialty monomers and polymers and devising new approaches to polymerization reactions. Salient features include five chapters containing over 500 illustrations and 900 references. The book is designed to accommodate the needs of both advanced undergraduates and graduate students. **See page 5 of this issue.**

Biography: Braja Mandal was born in the eastern part (West Bengal) of India. He obtained his B.Sc. degree with honors in chemistry from the University of Calcutta (now Kolkata). After receiving higher degrees (M.Sc., M.Tech. and Ph.D.) from the Indian Institute of Technology at Kharagpur, he joined the photolithography group of Indian Telephone Industries and worked there for two years. Subsequently, he held two postdoctoral positions, one as an Alexander von Humboldt fellow at the University of Tübingen in Germany. In 1991, he began his academic career as an assistant professor of chemistry at the Illinois Institute of Technology and now serves as professor of chemistry. His active research areas include solid polymer electrolytes, polymeric hydrogen storage media, high dielectric constant polymer films, low lattice energy lithium salts, and artificial photosynthetic molecules.

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.

DIRECTIONS TO THE MEETING

From the North:
Take Dan Ryan Expressway (I-90/I-94) east to 31st Street exit, continue south on Wentworth Ave. to 33rd Street, turn left (east) onto 33rd Street and go 1/4 mile to State Street.

From the South:
Take Dan Ryan Expressway (I-90/I-94) west to 35th Street exit, continue north on LaSalle Street to 33rd Street, turn right (east) onto 33rd Street and go to State Street.

From Lake Shore Drive:
Exit at 31st Street, go inland (west) 3/4 mile to State Street, turn left (south) and go to 33rd Street.

From the West:
Take Ronald Reagan Tollway (I-88) to I-290 east (Eisenhower Expressway). Merge onto Dan Ryan Expressway (I-90/I-94) east to 31st Street exit, continue south on Wentworth Ave. to 33rd Street, turn left (west) onto State Street.

By Public Transportation:
Both the Red and Green Lines serve IIT with stations at 35th street. Several CTA buses running on State Street stop at the MTCC. The MTCC is served directly by CTA Bus #29.

PARKING: Free street parking is available on State Street between 29th and 30th Street. A limited number of metered parking places are available in the visitors' parking lot.

Also visit **www.parking.iit.edu** for parking information.

Dinner Meal

First Course: Mixed Greens Salad with Candied Walnuts, Dried Cranberries, Pepper Crusted Goat Cheese with Balsamic Vinaigrette; Assorted Dinner Rolls with Butter; Wine

Second Course: Stuffed Chicken Breast Florentine with Spinach and Sun Dried Tomatoes, topped with a Wild Mushroom Sauce and served with 2 Grilled Shrimp, Saffron Rice, and Haricot Verts OR Grilled Portobello Mushroom Stack layered with Tofu, Red Bell Pepper and Zucchini, served with Saffron Rice.

Third Course: Raspberry Almond Cream Cake

THE UN-COMFORT ZONE with Robert Wilson

The Most Powerful Motivator

I was abruptly awakened and told, "The house is on fire. Go outside!" As I ran out of my bedroom and into the hall my socks slipped on the polished oak floor. A guiding hand helped me keep my footing and a frantic voice urged, "Hurry! Hurry!"

As I got to the door I looked over my shoulder and saw flames leaping out of the heating grate on the floor. The door was thrown open and I was shoved outside into the carport. "Go stand in the driveway and wait for me. And, DO NOT come back inside. Do you hear me? DO NOT come back inside the house!"

The door shut and I began to cry. I stood and stared at the seafoam green door with the frosted jalousie windows. I waited and waited, but I did not go stand in the driveway. I couldn't move. I began to shiver as the cold concrete floor seeped through my socks, and the winter air penetrated my pajamas. It seemed to take forever, and with each passing minute, I cried harder. I could taste the salt of tears flowing down my face and into my mouth.

Finally the door reopened and my mother announced, "The fire is out." Relief flooded my body as I ran into her arms and she held me tight. I was two years old and the mental images of that day are as clear as if it happened yesterday. It is perhaps my oldest memory.

As an advertising and marketing consultant, I know there are many things that motivate us. During my presentations I frequently conduct straw polls, where I ask my audiences what motivates them. The first answers are usually about desires, but eventually someone remembers the most powerful motivator of all-- FEAR.

Fear is a primal instinct that served us as cave dwellers and today. It keeps us alive, because if we survive a bad experience, we never forget how to avoid it in the future. Our most vivid memories are born in Fear. Adrenaline etches them into our brains.

Nothing makes us more uncomfortable than fear. And, we have so many: fear of pain, disease, injury, failure, not being accepted, missing an opportunity, and being scammed to name a few. Fear invokes the flight or fight syndrome; and our first reaction is always to flee back to our comfort zone. If we don't know the way back, we are likely to follow whoever shows us a path.

Marketers use fear as a motivator as

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"CHEM SHORTS" For Kids

The Elementary Education Committee of the Chicago Section ACS presents this column. They hope that it will reach young children and help increase their science literacy. Please print it out and pass it on to your children, grandchildren, or elementary school teachers. It is hoped that teachers will incorporate some of the projects in this column into their lesson plans.

Rubbery Flubbery Fun

Kids, this is a procedure for making the non-sticky sort of rubber, or gelatinous slime, that is known as "flubber". It is a completely safe substance that is not sticky and is non-toxic. You will need an adult partner for handling the heating steps.

Procedure:

1. Mix 1 teaspoon of a soluble fiber powder (such as Metamucil) with 1 cup (8 ounces) of water in a microwaveable bowl. For coloring you can add a drop or two of food coloring, a small amount of powdered drink mix, or some flavored gelatin.
2. Place the bowl in the microwave and heat on high for 4-5 minutes until the mixture is about to bubble out of the bowl. Turn off the microwave.
3. Let the mixture cool slightly, then repeat step 2. The more times this step is repeated the more rubbery your substance will become.
4. After 5-6 microwave runs, (be very careful – the mixture is hot, hot, HOT!!) have your adult partner pour the flubber onto a plate or cookie sheet. A spoon can be used to spread it out.
5. Allow to cool. You now have some non-stick flubber! A knife or cookie cutters may be used to cut the flubber into interesting shapes.
6. Flubber can be stored at room temperature in a sealed bag for several months. It will last indefinitely in a sealed bag in the refrigerator.

Tip:
If the flubber is sticky then the amount of water needs to be reduced. It should be clammy, but not sticky. Use less water next time.

What's the science?
Flubber is a polymer. Polymers are large molecules consisting of repeating structural units connected by covalent chemical bonds. Polymers can be naturally occurring or manmade. Manmade polymers are materials like nylon, polyester, and polystyrene. Examples of naturally occurring polymers are proteins in our body like tubulin and actin. The polymer in Metamucil is natural psyllium fiber – a type of polysaccharide. "Soluble" means that it will dissolve in a lot of water, but once the water evaporates the fibers become more and more entangled, forming our gelatinous "goo".

References:
Anne Marie Helmenstine's About.com website at **http://chemistry.about.com/cs/howtos/ht/flubber.htm**
and The Science Café at
http://sciencecafe.org/content/2008/12/22/make-your-own-flubber/

Submitted by
DR. KATHLEEN CARRADO

All past "ChemShorts for Kids": **http://membership.acs.org/C/Chicago/ChmShort/kidindex.html**

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Message from the Chair

Many of the activities of the Chicago Section depend on the efforts of volunteers to be successful. In most cases, a contribution of a few hours on a single day will contribute to the success of an event. During 2010, we have at least three events that need volunteers in addition to the officers and members of the board.

On April 22, we will help to celebrate **Earth Day**; this is a growing activity for us. In May, the ACS will be a partner in National Lab Day, a grassroots effort to reach out to young students with hands-on learning opportunities. During August 13-22, our section joins the other Illinois ACS Sections in staffing a booth during the **Illinois State Fair** in Springfield. This is a great opportunity to educate a large number of people about how chemistry benefits our lives. We need several volunteers to work in the booth during the ten days of the fair. Finally, we continue to have an active program on **Chemistry Day** in October. Last year, we had a wonderful Chemistry Day event, and we want this year's event to be as good or better. If you have an interest and can volunteer for any of these events, please contact the section, either through our website at **http://chicagoacs.org** or by sending an email to the section office.

At our March dinner meeting, we will read the names and have a moment of silence for all Chicago Section members who passed away during 2009. If you know of a former Chicago Section member who should be remembered in this group, please send the name and available biographical information to the section office by March 10.

KEN FIVIZZANI

KILPATRICK LECTURE SERIES 2010

As you may know, since 1965, the Department of Chemistry at IIT has been sponsoring the prestigious Kilpatrick Lecture Series, which has included individual lecturers or symposia with leading scientists from the U.S. and abroad. This year's lecture series is very special to me because my colleagues have requested that I host this symposium to celebrate the recent publication of my book, *Polymer Synthesis: strategies and tactics.* As a consequence, the central theme of the symposium will be "Recent Advances in Polymer Science and Engineering."

We are delighted to host this symposium jointly with the ACS Chicago Section on Friday, February 19, 2010. The program features five world renowned speakers in this field, covering highlights of metallocene-derived polyolefins, metal-containing polymers and smart polymeric materials.

The symposium venue is the Rem Koolhaas's McCormick Tribune Campus Center (MTCC) at the IIT main campus. If you would like to know more about this center, start with Ludwig Mies van der Rohe. This legendary architect served as head of IIT's architecture department (known then as the Armour Institute of Technology) beginning in 1938 and was appointed to design a master plan for the campus. Thereafter his signature "less is more" steel and glass structures dominated IIT's aesthetic.

Please join us at the symposium and enjoy a full day with the wonders of polymers. We look forward to seeing alumni, old friends from previous Kilpatrick Lectures and ACS Section meetings, and, of course, welcoming new ones.

BRAJA MANDAL, IIT

AGENDA of the All-Day Symposium

Friday, February 19, 2010
McCormick Tribune Campus Center (MTCC)
Illinois Institute of Technology

10:15-10:30am -- **Welcome**

10:30-11:30am -- **"Impact of Metallocenes/Nonmetallocenes in Polyolefin Technology" by Prof. Tobin J. Marks**, Northwestern University

11:30-1:00pm -- **Lunch Break**

1:00-2:00pm -- **"Inorganic Polymers" by Prof. Ian Manners,** University of Bristol, U.K.

2:00-3:00pm -- **"Smart Polymeric Materials-I" by Prof. Jeffrey S. Moore,** UIUC, Urbana-Champaign

3:00-3:30pm -- **Coffee Break**

3:30-4:30pm -- **"Smart Polymeric Materials-II" by Prof. Samue I. Stupp,** Northwestern University

4:30-5:30pm -- **"Smart Polymeric Materials-III" by Prof. Steven Zimmerman,** UIUC, Urbana-Champaign

5:30–8:30pm -- The evening activities, with honoree **Prof. Braja Mandal** as the after-dinner Kilpatrick Lecturer presenting **"An Excursion in Polymer Chemistry with Selected Highlights of the Last Half-Century"**, are presented on the cover page of this issue.

Admission is FREE for the lectures.

The cost for the evening banquet is $30 and **advance online reservation with IIT** is required (**see cover page of this issue**).

Abstracts of the talks:

"Impact of Metallocenes/Nonmetallocenes in Polyolefin Technology" – Tobin Marks
When chemisorbed upon certain metal oxide surfaces, the reactivity of many organometallic molecules is dramatically enhanced. Very high activity for olefin polymerization is an illustrative consequence of this altered reactivity. This lecture describes chemical and spectroscopic studies using the molecule-surface coordination chemistry, to understand the reasons for the enhanced reactivity, and to use this information for new types of homogeneous polymerization catalysts. This information leads to design rules for the synthesis and spectroscopic/crystallographic/catalytic characterization of functional ion-paired homogeneous phase organometallic models for the surface species. These studies afford a better understanding of the surface organometallic chemistry and catalysis, but also design rules for new classes of "single-site and "multiple-site" homogeneous olefin polymerization catalysts. These latter catalysts embody many of the characteristics of metalloenzyme active sites and engineered cooperativity effects between different catalytic centers can produce new types of macromolecules.

"Inorganic Polymers" - Ian Manners
Polymers containing metal centers are attracting increasing attention as they offer access to new functional macromolecular and supramolecular materials with interesting properties. Our group has developed ring-opening polymerization routes from strained precursors to form metallopolymers such as polymetallocenes with high molecular weights that allow easy processing. Well-defined architectures (e.g. block copolymers) are available through living polymerization processes, including a remarkable recently developed photocontrolled method. This talk will focus on recent efforts to use these metallopolymers to create, for example, photonic crystal devices with application in displays, and self-assembled supramolecular materials in the form of thin films, which can be used in nanolithographic applications and catalysis.

"Smart Polymeric Materials-I" – Jeffrey Moore
Damage-prone regions in polymeric and composite materials are difficult to detect and even harder to repair. Damage is preceded by complex spatial and temporal changes in stress state, and it is therefore desirable to utilize these mechanical changes to activate — without human intervention — chemical changes that favorably alter materials properties when and where needed. Desirable properties brought about in response to damage or high-stress conditions include: (1) signal generation to warn of ensuing failure, (2) molecular structure modification to slow the rate of damage and extend lifetime (e.g. stress-induced crosslinking), and (3) repair of damage to avoid catastrophic failure (e.g., crack-filling and interface rebounding). Several approaches have been taken to realize these functions including composites that incorporate compartmentalized healing agents and solvents or composites embedded with microvascular networks. These kinetic approaches to "healing" are triggered by damage in the form of microcracking. Molecular mechanisms are also needed in which a kinetic barrier can be surmounted by stress-induced activation of a mechanophore — the putative mechanically active unit. An experimental approach to develop new mechanophores will be discussed and examples involving electrocyclic ring-openings and hemolytic bond cleavage will be presented.

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ACS Vision - "Improving people's lives through the transforming power of chemistry"

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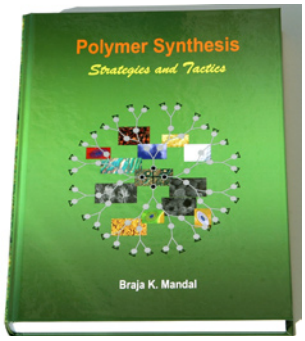
"Smart Polymeric Materials-II" – Samuel Stupp
Our laboratory has developed a broad class of molecules known as peptide amphiphiles programmed to self-assemble into high aspect ratio one-dimensional nanostructures. Filaments formed with these molecules form through hydrogen bonding as well as hydration and hydrophobic forces leading to nanostructures that display on the surfaces biological signals. Some of these supramolecular aggregates can undergo crystallization at long range based on repulsive forces, organize with orientation order over macroscopic scales, and form hierarchical structures with oppositely charged macromolecules. Bioactive examples of these nanostructures crafted to signal cells have great potential in advanced therapies for regenerative medicine and cancer. The supramolecular chemistry of such nanostructures should allow them to interact specifically with cell receptors or intracellular targets. This lecture will describe the development of the self assembly code that led to these bioactive nanostructures and also illustrate the use of these systems in the regeneration of neurons, the growth of blood vessels, bone and cartilage regeneration, among other therapeutic targets for advanced medicine.

"Smart Polymeric Materials-III" – Steven Zimmerman
The high fidelity of DNA replication is partly due to base-pairing specificity. Inspired by DNA we have developed a series of artificial base-pairs that form hydrogen-bonded complexes that exhibit significantly higher stability and higher fidelity relative to their natural counterparts. Particularly useful is a urea of guanosine (UG unit) which pairs with 2,7-diamidobaphthyridine (DAN unit). These units can be readily incorporated into small molecules and macromolecules, and attached to nanoparticles and surfaces, in some cases using "click chemistry." This talk will describe these nanoscale adhesion promoters and the broad range of supramolecular structures that can be produced. Applications possible with these very high affinity recognition units will be introduced as a way to turn the recognition on and off. The ability to orthogonally address recognition events at the molecular level provides a degree of control necessary to replicate the biocomplexity of naturally occurring systems.

New Polymer Chemistry Book



Polymer Synthesis- strategies and tactics
Braja K. Mandal
ISBN: 978-0-9841572-0-4
Publisher: Covalent Press, Inc.

- This book covers the latest developments in the field of Polymer Chemistry.
- Depicts advanced methodologies for designing polymers with specific properties and architectures.
- Contains over 500 illustrations and 900 references.
- Provides numerous skill building examples at end of chapters.
- Will create enthusiasm among chemistry students to pursue Polymer Chemistry.

Visit **www.covalentpress.com** for a preview of each chapter of the book.

February Historical Events In Chemistry

February 3, 1893 Lenora Neuffer Bilger, a researcher in asymmetric nitrogen compounds, was born. She received the Garvan Medal from ACS in 1953.

February 5, 1840 John Boyd Dunlop, who developed pneumatic rubber tires, was born.

February 6, 1860 Nikolai D. Zelinsky, who researched on the catalysis of disproportionation reactions of hydrocarbons and the bromination of fatty acids (Heil-Volhard-Zelinsky reaction), was born.

February 7, 1850 John B. F. Herreshoff, who developed the method for manufacturing sulfuric acid, was born.

February 8, 1777 Bernard Courtois, who discovered iodine in the liquor from the lixiviation of kelp in 1811, was born.

February 8, 1866 Moses Gomberg, who synthesized the first stable free radical (triphenylmethyl), was born. He also did research on tautomerism.

February 11, 1847 Thomas A. Edison, inventor of the incandescent lamp and the mimeograph machine, was born.

February 12, 1785 Pierre L. DuLong, who studied refractive indices and specific heats of gases and discovered nitrogen trichloride in 1813, was born. In 1819, he and Aléxis Thérèse Petit discovered the Law of Constancy of Atomic Heat. He suggested that acids were compounds of hydrogen in 1815. He devised a formula for the heat value of fuels (DuLong formula).

February 14, 1917 Herbert A. Hauptman, who, with Jerome Karle shared the Nobel Prize in Chemistry in 1985 for their outstanding achievements in the development of direct methods for the determination of crystal structures, was born.

February 18, 1745 Alessandro G. A. A. Volta, who invented the voltaic pile and *vota pila*, and observed the bubbling of methane in swamps, was born. He developed a gas lantern that was electrically ignited. The unit of electric potential, the volt, is named in his honor.

February 20, 1937 Robert Huber, who did research on the three-dimensional structure of proteins involved in photosynthesis, was born. In 1998, he shared the Nobel Prize in Chemistry with Johann Diesenhofer and Hartmut Michel for the determination of the three-dimensional structure of a photosynthetic reaction centre.

February 24, 1913 William S. Johnson, who devised new and efficient methods to synthesize complex molecules including corticoid steroids, was born.

February 25, 1869 Phoebus A. T. Levene, who was as a researcher on the biochemistry of proteins, was born.

February 26 1905 William J. Sparks, an innovator and developer in synthetic rubber, was born.

LEOPOLD MAY
Professor Emeritus of Chemistry
The Catholic University of America
Washington, DC

Additional historical events can be found at Dr. May's website, **http://faculty.cua.edu/may/Chemistrycalendar.htm**

DUPAGE AREA ENGINEERS WEEK EXPO 2010

The DuPage Area Engineers Week is being celebrated on **Saturday, February 20, 2010** at Illinois Institute of Technology's Daniel F. and Ada L. Rice Campus at 201 East Loop Road in Wheaton. Events are free and open to the public. The event celebrates the fun that math, science and engineering provide to learners of all ages.

The theme for the 2010 event is "Engineering Today's Play with Tomorrow's Careers." The goal of the Expo is to ensure a dedicated, diverse and well-educated future engineering workforce by promoting pre-college literacy in math and science. While the Expo's target age group is middle school, people of all ages will enjoy the displays and presentations.

The Engineers Week Expo features a building full of hands-on activities and demonstrations to allow young people to experience and explore the fields of engineering. The 2010 Expo will be Saturday February 20, from 11:00 a.m. to 3:30 p.m. at Illinois Institute of Technology's Daniel F. and Ada L. Rice Campus at 201 East Loop Road in Wheaton. Presentations are directed toward introducing students of all ages and their parents to the current state of technology and advances being made throughout industry. The cooperation of the professional engineering societies, academic organizations and industry provide a comprehensive overview of the current state-of-the-art as well as generating an interest in the sciences among the program's visitors.

The first DuPage Area Engineers' Week Open House was held in 1985 at Midwest College of Engineering in Lombard, Illinois. In 1986 Midwest College merged with Illinois Institute of Technology to form a new, west-suburban campus called IIT West, now the Daniel F. and Ada L. Rice Campus. Over the last approximately twenty years, the west suburban campus of Illinois Institute of Technology has hosted the annual Engineers Week celebration.

Please join us for one or more of these activities and check out the Web site from time to time to see what's new: **http://dupageeweek.iit.edu.** For more information on the DuPage program, call 630-682-6040 or kozi@iit.edu.

NEXT MONTH:
the
March 12
Public Affairs Meeting

PUBLIC AFFAIRS COLUMN

America's Next Great Pundit

This was the title of a contest run by the Washington Post. First, let me tell how I happened to know about it. The Post is the only daily newspaper for which I have portions delivered by email on a regular basis. I receive several highlights daily, including weekends, and generally have access to all of the issue, if I choose. But I don't usually read it completely -– takes too much time. That is why I did not know until it was nearly over that they were running a column writing contest. A piece of written work was to be submitted, preferably work that you were doing for hire. The work had to be submitted between September 29 and October 21, 2009.

Nearly 5,000 entries were received. After they were received they had to go through an evaluation and elimination process. By the end of this evaluation process, they had it down to ten finalists. The finalists were then asked to write a 750 word essay on a subject of their choosing. That was about the time that I ran across the contest and discovered that the essays had been written and judged, and that the contestant pool had been reduced to ten.

They were then evaluated further by oral communications and voting until a final choice was made. The ultimate winner was Kevin Huffman, an executive vice president with "Teach for America."

The most interesting aspect about the contest for me was that among the final ten contestants was Dr. Burton Richter, a Nobel prize-winning physicist in 1976. Dr. Richter is the Paul Piggott Professor Emeritus of Physics at Stanford, Director of the Stanford SLAC, member of the National Academy of Sciences, and past president of IUPAC and the APS. Although now retired, he is an active writer and lecturer. I don't know if there were any other scientists in the original group of 5000, but I was very pleased to see Dr. Richter's name in final list of ten.

Dr. Richter's initial offering was a 400 word essay titled "Separating partisanship from technology." This got him into the final group of ten where he was asked to write a final essay of 750 words, which he titled "Why not do the easy things first?" He was eliminated from the first round in the group of ten, and I can't help but think that his being a scientist might have hurt him; it certainly didn't help him. One of the judges admitted that he took someone else's word on his article because "he just didn't feel comfortable with science." Although there has been much improvement in how the community thinks of science as a discipline as well as the folks who practice it, there is still a lack of appreciation and in some cases, a fear of science as a discipline. There is still much work to do.

JIM SHOFFNER,
Co-Chair, Public Affair Committee

Act4Chemistry.org

The new home of the ACS Legislative Action Network (LAN) to:

- Contact policymakers
- Link to daily policy news
- Engage in Act4Chemistry blog

National Lab Day Coming in 2010

President Obama recently announced the establishment of National Lab Day, an effort supported by ACS and 190 other organizations representing more than 6.5 million science, technology, engineering, and math (STEM) professionals. The first National Lab Day is tentatively set for early May 2010 and will be part of a large, ongoing STEM initiative called "Educate to Innovate." ACS and other organizers hope National Lab Day will help stimulate more hands-on science learning by fostering enduring collaborations between individual STEM professionals, teachers, and students. ACS Chemistry Ambassadors are already making these connections. To join the effort or learn more, visit **www.acs.org/chemistryambassadors** and **www.nationallabday.org**

Celebrating 15 Years of ACS Scholars

In 2010, the ACS Scholars Program, which provides renewable scholarships to underrepresented minority students who want to enter the fields of chemistry or chemistry-related fields, will celebrate 15 years and more than 2200 scholarship recipients. The anniversary will be celebrated with special symposia at both ACS national meetings in 2010, including a technical symposium featuring current and graduated ACS Scholars on Monday, March 22, 2010, at the ACS Spring National Meeting in San Francisco.

Applications are now being accepted from prospective ACS Scholars for the 2010-2011 academic year; further details and online application materials are available at **www.acs.org/scholars**.

TEAMWORKS 2010

The trade show TEAMWORKS 2010 will be held March 31for formulators in the household, institutional, industrial, personal care, and topical over-the-counter drug product industries. Registration is free to chemical professionals. For details, call 1-888-411-4264.

THE UN-COMFORT ZONE

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often as they can. They present a scenario they hope will invoke our sense of fear. Then they show us a solution – a path back to our comfort zone – that entails using their product or service. Fear is used to sell virtually everything: cars, tires, and life insurance are classics. But, clever marketers also use it to sell breakfast cereal and deodorant. As a result we purchase all sorts of things that a generation ago were considered unnecessary: antibacterial soap, alarm systems, vitamins... the list goes on and on.

WARNING: Fear can be too powerful to use as a motivator because it can also paralyze -- the classic deer in the headlights syndrome. Would you like to use fear to motivate your employees to perform better? "If you don't sell more widgets - you're FIRED!" It can work, but there are rules you must follow for it to be successful. To use fear successfully as a motivator, a solution must be offered with it -- a new path to follow. You can tell an employee he or she must sell more, but unless you show them how, fear will cause flight or worse: paralysis.

Fear is a powerful motivator, but it is a negative one. I prefer to motivate someone by eliminating doubt. Doubt destroys motivation. If you can help a person get rid of it, you will motivate them positively.

--

Robert Evans Wilson, Jr. is a motivational speaker and humorist. He works with companies that want to be more competitive and with people who want to think like innovators. For more information on Robert's programs please visit **www.jumpstartyourmeeting.com**

WCC ARTICLE AUTHORS NEEDED

The Chicago Section's Women Chemists Committee has a project to highlight women, both current and historical, and topics of interest to women. The project is called the "WCC Column" in the *Chemical Bulletin* and the project has been very successful.

We invite anyone, women or men, to join us in this endeavor of writing an article for the column. The article needs to be about 500 words long and will also be put on the Chicago Section website. The author also needs to design a poster for the corresponding monthly meeting. Our office manager, Gail Wilkening, will help with the poster, which can be primarily a large font version of what you wrote, if you wish. We welcome new authors and those who have already discovered what a pleasure this project is. Whether you interview a current chemist or research an historical chemist on the web, please join us in this stimulating activity.

CO-CHAIRS MARGY LEVENBERG
AND SUSAN SHIH

Apply Now for Undergraduate Summer Research Opportunities

The ACS-IREU Program (International Research Experience for Undergraduates) is welcoming applications for participation in 2010 summer research. This NSF-funded international research program provides opportunities for undergraduates majoring in chemistry, biochemistry, materials science or chemical engineering to conduct intensive research for 10 weeks in laboratories in France, Italy, Germany, or the UK. To qualify, students must be in their sophomore or junior year, have one semester or summer of prior research experience, and must be US citizens or permanent US residents. Members of underrepresented minority groups are encouraged to apply. To learn more, go to **www.acs.org/ireu**.

Advertising Index

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Northup RTS	3	847-579-0049	www.toxconsultants.com
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IAMI	8	630-268-0656	www.midwestscc.org
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CALENDAR

February 10: Chicago Chromatography Discussion Group and Society for Applied Spectroscopy Chicago: "Accelerator Mass Spectrometry: Ultra-sensitive Applications in Drug Development and Personalized Medicine"; 5:30 pm at the Elk Grove Holiday Inn, 9175 W. Stockton Blvd., Elk Grove; **www.ccdg.org**

February 12-16: Annual meeting of The American Association for the Advancement of Science, Chicago. For more information, go to website **www.aaas.org**

February 18: College of Microscopy Workshop: "PAX-it Image Database and Image Analysis Workshop"; 8 am - 5 pm at the College of Microscopy, 850 Pasquinelli Dr., Westmont.Details at **www.collegeofmicroscopy.com/courses/course.asp?COURSE_ID=84**

February 19: Chicago Section ACS Dinner Meeting held jointly with IIT. This is the evening Kilpatrick Lecture. **See details in this issue**.

February 22: Society of Plastics Engineers Chicago Section Annual Suppliers EXPO; 4 - 9 pm at the Holiday Inn Itasca, 860 W. Irving Park Road, Itasca; **www.4spe.org/technical-groups/events/107**

February 22 - 26: College of Microscopy Workshop: Microscopical Identification of White Powder Unknowns"; at the College of Microscopy, 850 Pasquinelli Dr., Westmont. Details at **www.collegeofmicroscopy.com/courses/course.asp?COURSE_ID=80**

February 28-March 5: PittCon 2010 Conference and Expo, Orlando, FL. Visit **www.pittcon.org** for more information.

March 12: Chicago Section ACS Public Affairs Dinner Meeting.

March 21-25: ACS National Meeting in San Francisco, CA.

March 31: TEAMWORKS 2010 trade show. See page 8 in this issue. Visit website: **www.midwestscc.org/teamworks**.

April 20: Chicago Section ACS Dinner Meeting. This is a Tuesday meeting.

April 22: Earth Day - This year's theme is "Plants - The Green Machines!"

May 14: Chicago Section ACS Gibbs Award Banquet and Lecture. The medalist is Dr. Maurice Brookhart, University of North Carolina.

June 24: Chicago Section ACS Distinguished Service Award and 50 & 60-year member awards presentations.

August 13-22: ACS Illinois Sections' cooperative tent project at the Illinois State Fair in Springfield. For further information on this fun and worthwhile outreach activity, contact the section office at (847) 391-9091. Also, visit website **http://membership.acs.org/C/Chicago/statefair/index.html**

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

ACS SHORT COURSES ARE BACK AT PITTCON 2010

For the first time in 5 years, the ACS will be offering Short Courses at Pittcon 2010, to be held in Orlando, FL, February 27-28, 2010. This is a fantastic opportunity to expand knowledge and technical skills in new areas while you are already attending the meeting. The courses offered are briefly described below. For further information, contact ACS at shortcourses@acs.org.

ECOLOGICAL IMPACT OF CHEMICALS
February 27

This course is an overview of the primary issues pertaining to the impact of chemicals following release into the environment. The timeliness of this course is, in part, due to the increased levels of regulatory and public interest internationally in the evaluation of chemicals' behavior in environmental surroundings. Concepts apply to all chemical classes – industrial, pharmaceutical, consumer products, pesticides, and others.

EFFECTIVE SUPERVISION OF SCIENTISTS AND THE TECHNICAL STAFF
February 27-28

This course will help technical managers improve their skills by teaching effective management techniques, how to motivate staff for more creative output and participation, how to improve problem-solving abilities, and how to create a positive work atmosphere.

INTRODUCTION AND USE OF STANDARD METHODS FOR ENVIRONMENTAL REGULATORY ANALYSIS AND COMPLIANCE
February 27-28

This course will focus on how to use "Standard Methods for the Examination of Water and Wastewater" to meet CWA-SDWA regulations. Topics will include the chemical reactions utilized for analyte detection, the development of SOPs utilizing sections of Standard Methods, troubleshooting analyte analysis methods, and preparing for a State, Federal, or NELAC-TNI audit.

HUMAN HEALTH & TOXIC IMPACT OF CHEMICALS
February 28

This 1-day course covers the terminology, testing strategies, and risk assessments used by toxicologists for chemical safety assessments. Participants will learn the principles applicable to effectively contributing to teams responsible for product stewardship and the assessment of environmental safety.