

Volume 50, Number 5 — September, 2008  
 Columbus Section of the American Chemical Society, Inc.  
 George Greene, Editor — Ron Mitchum, Section Chair  
[www.acscolumbus.org](http://www.acscolumbus.org)



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### FROM THE CHAIR By Ronald K. Mitchum

Now since the Olympics and political conventions have been held, it is time for all the ACS members to put the Local Section's fall schedule on you calendars. I hope everyone had a great summer. I know everyone is looking forward to the meetings that are being arranged by the Section. Although it is difficult to have a general theme for our meetings due to our diverse corps of volunteers and organizations, I hope everyone in the Section will see something that will encourage you to attend. I personally welcome you to attend. Mark it on your calendar and make it a habit to further your professional growth through interaction with and within the Section and Society. The monthly meetings are an excellent place to meet other professionals in your area, further your personal professional growth and interact with professionals which have a common goal. Kill the TV, put down the *Dispatch* and come join your local section for a great evening.

New members and students are encouraged to attend.

The September meeting will be held at the Clintonville Women's Club which consists of a private clubhouse nestled atop the Adena Brook Ravine, adjacent to the Whetstone Park of Roses in the heart of Clintonville. This is a great venue, there is ample room and parking for everyone.

The September meeting will feature **Dr. Jeffrey Seeman**: *A Human Side of Chemistry: A Portrait of Contemporary Heroes*. Dr. Seeman is an ACS tour speaker. The October meeting will feature **Dr. Thomas Lane**, our ACS President-Elect. **Priscilla Ratliff** and I are busy arranging the final two meetings of the year.

### UPCOMING MEETINGS By Ronald K. Mitchum, Chair

September 16, 2008      Monthly Section Meeting: Dr. Jeffrey Seeman: *A Human Side of Chemistry: A Portrait of Contemporary Heroes*.

October 21, 2008      Monthly Section Meeting: Dr. Thomas Lane, President Elect ACS, will be the featured speaker. The meeting will be held at CAS and include the 50 year member recognition awards and the High School Teacher of the Year Award.

Mark your calendars for this one!!!!

### VOLUNTEERS NEEDED! By Ronald K. Mitchum

Volunteers are needed to fill the following elected offices for 2009: Chair-Elect, Secretary, Treasurer-Elect, Councilor and Alternate Councilor. Self nominations are welcome or nominate a colleague. We need at least two (2) nominees for each position. For further information contact **Julia Moniaci**, Nominating Committee Chair, at [jmoniaci@aerrotek.com](mailto:jmoniaci@aerrotek.com). You may also mail your nomination to Julia at 425 Metro Place North Suite 250, Dublin OH 43017, or call her at 614-932-1325 (work.)

All elected officers are members of the Executive Committee (EC) of the section and are required to attend the EC meetings at the request of the Section Chair. Candidates for office should have a willingness and enthusiasm for ACS service. Experience is welcome but not necessary; training is provided. Nominees for Councilors are encouraged to have prior or current service to the ACS as Councilor/Alternate and/or Officers for a Local Section or Technical Division.

The Offices for election are as follows:

**Chair-Elect:** The Chair-Elect succeeds the Chair after one year of service in this position. The main responsibilities are Program and Planning. Attendance at Leadership Training provided by ACS is also required. This is very good training both for ACS service and for personal growth.

**Secretary:** One-year position. The main function is to maintain records, record minutes of Executive Committee meetings, and assist the Chair on agenda items.

**Treasurer-Elect:** The Treasurer-Elect succeeds the Treasurer after serving one year in this position. The main responsibilities are to assist the Treasurer and become familiar with procedures.




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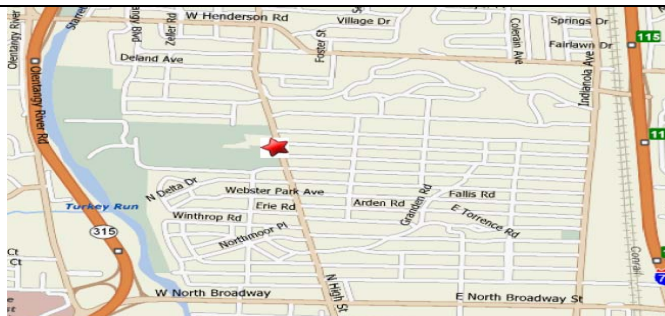
**Councilor:** The Councilors represent the Section's membership before the ACS at National meetings and on Governance-related functions as required through the year. The section has three Councilors who serve staggered 3-year terms to ensure continuity.

**Alternate Councilor:** The alternate Councilors may replace councilors if the elected councilor is not able to serve in that capacity.

Persons interested in these positions can find more complete descriptions in the Section's Job Manual. The Manual in its current draft version is at: [www.acscolumbus.org](http://www.acscolumbus.org), under the pull-down menu "How we work".

**I would like to publish the list of candidates in the October 2008 Chemical Record. The publication deadline is September 22, 2008.**

<b>MEETING NOTICE</b> <b>Columbus Section of the American Chemical Society, Inc.</b> <a href="http://www.acscolumbus.org">www.acscolumbus.org</a> <b>Tuesday, September 16, 2008</b>		<b>The Clintonville Woman's Club</b> <b>3951 N. High St. Columbus, OH 43214</b> <b>614-268-5525</b> <a href="http://www.clintonvillewomansclub.com">www.clintonvillewomansclub.com</a>
<b>5:00-6:00PM</b>	Executive Committee Meeting (open to all members)	
<b>6:00-6:45 PM</b>	Reception: Hors d'oeuvres will be served.	
<b>6:45-7:30 PM</b> <b>Dinner</b>	Dinner of <b>Herb-Stuffed Fish</b> or <b>Chicken Rothschild</b> including tossed garden salad, chef's choice of sides and dessert, soft drinks, coffee, and tea.	
<b>7:30-8:30 PM</b> <b>Speaker</b>	<b>Jeffrey Seeman: A Human Side of Chemistry: A Portrait of Contemporary Heroes</b>	
<b>Cost</b>	\$25 per person, members and non-members, \$20 for retired and unemployed members, \$5 per student. Payment will be collected at the door; cash and checks accepted.. <b>Please remember this is a meal order and must be paid. Please help us control costs by honoring your order.</b>	
<b>Reservations</b>	Please use the voice mail reservations service by calling 614-447-3600 extension 7047. Follow the template for reservations*. Alternatively, please send e-mail to The Columbus Section at the following e-mail address: <a href="mailto:acscols@cas.org">acscols@cas.org</a>	
<b>*Voice Mail/E-Mail Reservations Template</b>	<ul style="list-style-type: none"> <li>• First and last name: please spell last name.</li> <li>• Membership category: member, retired, emeritus, teacher, unemployed, student, non-member, other.</li> <li>• Employer.</li> <li>• Your choice of entrée (Herb-Stuffed Fish or Chicken Rothschild)</li> <li>• Your phone number, in case we need to contact you.</li> <li>• If you intend to attend the Executive Committee meeting, please state so to allow early entry.</li> </ul>	
<b>Reservation Deadline</b>	<b>5:00 PM, Thursday, September 11, 2008</b>	
<b>Program Contact</b>	<b>Ronald Mitchum, 614-873-0710, <a href="mailto:ronaldmitchum@core.com">ronaldmitchum@core.com</a></b>	
<b>Directions</b>	<i>Clintonville Woman's Club</i> <i>3951 High Street</i> <i>Columbus, Ohio 43214</i> <i>614.268.5525</i> 	



- The Clintonville Woman's Club is located 0.7 miles south of Henderson Rd. on the west side of North High Street.
- The private clubhouse is nestled atop the Adena Brook Ravine, adjacent to the Whetstone Park of Roses in the heart of Clintonville
- Please sign-in at ACS Hospitality table.

### ABOUT THE SPEAKER

**Jeffrey I. Seeman** received his B.S. with high honors in 1967 from the Stevens Institute of Technology in Hoboken, New Jersey, and his Ph.D. in organic chemistry in 1971 from the University of California, Berkeley. Following a two-year staff fellowship at the Laboratory of Chemical Physics of the National Institutes of Health in Bethesda, Maryland, he joined the Philip Morris Research Center in Richmond, Virginia. In 1983-84, he enjoyed a sabbatical year at the Dyson Perrins Laboratory in Oxford, England, and claims to have visited more than 90 percent of the castles in England, Wales, and Scotland. Seeman's 90 published papers include research and patents in the areas of photochemistry, nicotine and tobacco alkaloid chemistry and synthesis, conformational analysis, pyrolysis chemistry, organotransition metal chemistry, the use of cyclodextrins for chiral recognition, and structure-activity relationships in olfaction. He was a plenary lecturer at the Eighth IUPAC Conference on Physical Organic Chemistry held in Tokyo in 1986 and has been an invited lecturer at numerous scientific meetings and universities. Currently, Seeman serves on the Petroleum Research Fund Advisory Board. He continues to count **Nero Wolfe** and **Archie Goodwin** among his best friends.

### ABOUT THE TOPIC

#### *A Human Side of Chemistry: A Portrait of Contemporary Heroes*

How is science performed? How does personality affect research objectives, methodologies, and achievements? What lessons have we learned in terms of the "human side of science"? With the goals of education, inspiration and fun, this talk will focus on a number of famous chemists who will reveal their various personality characteristics and scientific behaviors. Through the use of photographs of famous chemists taken over the last 90 years, the role of various personality and societal factors will be discussed (*e.g.*, ego, pride, sincerity, roots and tradition, family, collaboration and competition, social consciousness, and humor). A key part of the presentation will be a video entitled *In the Pursuit of Discovery*. This network-quality documentary features three eminent chemists and reveals the essence of their personalities: the late **Derek Barton**, **Carl Djerassi**, and **Koji Nakanishi**. [Other choices include **Dudley Herschbach**, **Marye Anne Fox**, and **Gilbert Stork**.] The talk will be of interest to non-chemists, chemists of all levels as well as to individuals interested in the development, history, and philosophy of science.

**Jeff Seeman** is currently Chair of the Division of the History of Chemistry of the ACS. He has over 115 peer-reviewed publications and patents in the areas of physical organic chemistry, thermal chemistry, and natural products chemistry. He is the Editor of the series of 20 autobiographies of eminent chemists, *Profiles, Pathways and Dreams*, published by the ACS. Seeman's professional experiences have included five years on the Editorial Advisory Board of the *Journal of Organic Chemistry* and two terms on the Advisory Board of the ACS Petroleum Research Fund. In addition to his research interests and the production of videos for educational institutions, Seeman also breeds and trains APHA (paint) horses.

Silver

**SILVER CIRCLE GROUP WETLANDS TOUR**

*By Tom Weeks*  
[tomweeks@aol.com](mailto:tomweeks@aol.com)

Silver

The Silver Circle group will meet on September 9 at the OSU Wetlands for a luncheon, lecture, and tour of the wetlands. For more information on this nationally recognized facility off Ackerman Rd. go to <http://swamp.osu.edu/tours/index.html>. If you are interested in being placed on the Silver Circle mailing list, contact Tom Weeks at [tomweeks@aol.com](mailto:tomweeks@aol.com).

**SECTION MEMBER IN THE NEWS**

*By Steve Rosenthal*

The August, 2008 issue of Columbus Monthly has a special advertising section on local colleges and universities. There is a page (page 149) about Ohio Dominican University that includes a photo with ACS local section member, Chemistry Professor **Lewis Hogarth**.

**WELCOME NEW MEMBERS!**

*By George Noethlich*

Please join us in welcoming the following new members who have joined the Section recently. The Columbus Section cordially invites new members to our monthly meetings. The Section will pay for new members' meals the first time they attend a meeting.

ABDS-SAMI MALIK	JANE E JACKMAN	MICHAEL D LOVE
ANDREAS MUNDING	JASON S TRESBACK	MIKE SNIDER
ANDRES ZA VALETA	JESSICA E FRANCE	MILAN M JEVTITCH
ANDREW BRUNING	JIAN YANG	MOLLY A STRAUSBAUGH
AYODELE FASHEMI	JIANG LI	NANDITA LAKSHMINARAYANAN
BENJAMIN J LEAR	JIANYAN XU	PRASAD S CHALASANI
BRANDON G VANNESS	JOHN A LOTT	RANDY B SEARS
BRIAN HAMILTON	JOHN H GATISS	RICHARD L WRIGHT
CHANDRANI CHATTERJEE	JONATHAN P ETTER	ROBERT J JOSEPH
CHRISTOPHER S CALLAM	JOSEPH A KRZYCKI	ROBERT L WOODWARD
CRAIG M DOWNIE	JUSTIN CLAY HARRIS	ROHIT V TIWARI
CURTIS J STEWART	KIMBERLY M NELSON	SETH KERECHANIN
DIAN HE	KIRSTEN L DANGARAN	SHEELA G AGRAWAL
DMITRY G MELNIK	LEILI GHOLIZADEH	SHUBHAM VYAS
DOUGLAS K GREEN	MARGARET E GINN-PEASE	TAMARA L KLOTZBACH
ELIZABETH J BIDDINGER	MARLIN H LINGER	TERESA A SASKA
ERIK W EDWARDS	MARTIN HUGHES	THOMAS J HALL
GLEN COX	MATHIEU F CHELLAT	YANYAN ZHANG
GRACE K MBOGO	MATTHEW G LAUER	YA-TING KAO
HUA LIU	MATTHEW P WOODS	YUNING CHANG





## PROFILE OF GFS CHEMICALS

*Editor's Note: As part of our celebration of the 50<sup>th</sup> anniversary of The Chemical Record, we are printing articles about various companies and organizations that have facilities in the geographical area covered by the Columbus Section. GFS Chemicals has been a loyal, generous supporter of Section activities for many years, and John Long has graciously provided the following information.*

### AN 80<sup>th</sup> ANNIVERSARY STORY

#### GFS Chemicals Recipe for Success

It's a common story today – chemists in academia develop a novel technology, become instant entrepreneurs, and start down the convoluted path toward a start-up entity and an inevitably prosperous business. It sounds simple enough, although the measurement of success can be elusive if not fleeting given the barriers presented by the prevailing regulatory and environmental climate.

But what if your Academic Chemist pursued this dream not in the 21<sup>st</sup> century, but in 1928, of all years? What would be the odds of sustaining a three-man company in the face of a decade-long depression, using long-distance management in the years when electronic communication meant telephone, telegraph and radio? Would you sign up for this venture?

Fortunately for today's chemical community, **Professor G. Frederick Smith** (University of Illinois) was able to convince his two brothers, **Allyne** and **Clarence**, to quit their jobs as pressmen at a Columbus, Ohio newspaper and start the chemical company that is now GFS Chemicals, Inc. Eighty years in the making, this success story still serves as a model for today's chemists looking to pursue a business vision of their own.

In the current age of legal entanglements and adversarial relationships, The Professor's business philosophy looks to be startlingly transparent. His network of academic and industrial chemists was hungry for new reagents to use in the development of classical analytical methodologies. He not only created an arsenal of ligands and reagents for lab use, he published free monographs that detailed both the use *and* the method of synthesis of many of these chemicals.

While many of his colleagues thought such openness was a recipe for failure, the analytical community understood that the company's first priority was simply to allow lab chemists to do their jobs better. As the company grew, business relationships grew on the basis of education and trust, both personally and technically. Several journal articles now catalog that legacy.<sup>1-3</sup> Today, the third generation of family management works hard to advance both its technical sophistication and its relationships with customers in a world that is instantly connected through a network of electronic communication unimaginable to G. Frederick Smith.

Professor Smith was one of the first to see the value of combining the "Chemical Catalog" concept with ongoing and expanding technical education, a model for many of today's successful specialty chemical companies. As chemical and engineering technologies advanced, so did the company's product line and manufacturing expertise (see much more at [www.gfschemicals.com](http://www.gfschemicals.com))

Professor Smith was a tireless and well-traveled consultant and advocate for the safe use of perchloric acid and perchlorate salts in many important areas of chemistry. Often times, furthering science was more passionately pursued by the Smiths than strategic business development, a commitment that could be a fatal flaw in a private family company that was not carefully managed.

On the occasion of the company's 80<sup>th</sup> Anniversary, GFS Chemicals was recognized by the House of Representatives of the General Assembly of the State of Ohio with a citation describing how "GFS has enhanced the quality of life within its surrounding area. We are certain that as this worthy enterprise maintains its dedication to service and achievement, it will continue to grow and prosper, and will carry on the tradition of excellence that has long been the company's Hallmark."

In the same vein, the Ohio Chemistry Technology Council's Board of Directors congratulated GFS for the way the company "epitomizes the American success story – a global business built by visionary leaders who have embraced the highest standards of product quality, service to customers, and commitment to the community."

Even with the passing of 80 years since the founding of the company, the GFS story is still especially pertinent to the academic chemist considering the translation of advanced technology into a 21<sup>st</sup> century company start-up.

**References::**

1. Talanta 44 (1997), 725-727. The founding of the Midwest University Analytical Chemistry Conference (MUACC) over 50 years ago as a critical venue for the informal exchange of ideas in analytical problem solving and the building of academic relationships.
2. Talanta 13 (1966), 867-883. A tribute to the passion of Professor Smith in his beloved field of Analytical Chemistry.
3. J. Chem. Ed. 61 (1984), 625-6. An exploration of the business model provided by the company's evolution into a major manufacturer in the chemical specialties market.



**REPORT ON STATE SCIENCE  
DAY 2008**

*By Bob Kroshefsky  
METSS Corp.  
Westerville, OH*

For at least a decade, the Columbus section has sponsored awards at the Ohio State Science Day (held in early May) for "Outstanding projects in chemical sciences, including analytical, biochemistry, genetics, natural products, organic or physical chemistry." It has been my pleasure to coordinate this event for the section over the past five years. I wish to report on the judging process and this year's outcome.

This year, 133 projects were pre-registered for the ACS awards in the two grade categories: 99 projects in Grades 7-9 and 34 projects in Grades 10-12.

These numbers have been relatively consistent for the past four years and dictate the number of judges that are needed – 25, at minimum and greater than 30 is preferred. This year, 37 judges signed up and 33 judges eventually participated. Seventeen of them had judged in 2007. The judge demographics are as follows: 23 professionals from academia, industry, or retired; 3 active or retired college professors; 3 OSU post-docs; 2 OSU graduate students, and 2 OSU undergraduates.

A final listing of the competing projects' technical categories and titles is made available about two weeks before the event. As has become my custom, I review the list looking for projects that might be outside the scope of our awards as mentioned above. I identified 42 such "questionable" projects this year and marked them for reference. There is a reason for this.

In my time as coordinator, I have developed a reasonably simple, efficient method of judging that, I believe, pushes the best projects to the top. Judging uses a three round, single elimination, "tournament" format similar to what we see in many sports. In 2008:

The Grade 7-9 projects were assigned to 24 (mostly first-time) judges  
First round judging had individual judges choose the best one of 4-5 projects  
Second round judging had five judging teams choose the best one of 4-5 projects  
Award round judging had a five-judge team rank the Top 3 projects

The Grade 10-12 projects were assigned to 9 experienced judges  
First round judging had individual judges choose the best one of 3-4 projects  
Second round judging had two judging teams choose the best two of 4-5 projects  
Award round judging had a five-judge team rank the Top 3 projects

The judging process proceeds as follows:

Judges receive a detailed schedule with guidance on how to evaluate projects  
Judges are given at least one "questionable" project in the first round  
Judges give notices to students explaining the judging system  
Judges apply a qualitative ranking in the first round  
Judging teams use majority vote in the second round  
Judging teams use consensus in the award round



In the first round, I instruct the judges to visit “questionable” projects first. They take an overall look at the project and, using the guidelines they have in hand, decide whether it falls within our award scope. If it doesn’t, they can quickly eliminate it from consideration and thus have more time to spend on the other projects in their portfolio. Each student gives a short talk about the project and then answers any questions the judge may have. In this round, the judge is free to use whatever “system” works for him or her in selecting the best project of that group. As I remind them, they will become the advocate for that project in the second round, so they have an incentive to be diligent.

As the judges come back from the first round, I then put them in groups of 4-5 and send them out for second round judging. Now, as a group, they sequentially listen to each student’s verbal presentation and ask questions. Then they caucus and vote for the best project they’ve seen. Here is where the advocacy comes in. Honestly, I’ve never listened in on one of these conclaves, but I imagine that they can be quite lively. No judge has ever come back from this process with a physical injury, so it must, at least, be civil discourse.

As the second round results come back, I ask each group to nominate one of its members to be a member of the award-round judges. Once done, all the other judges in that group are free to leave or stay and become spectators, as they desire. Most stay.

Now, the award-judging groups go out to hear the top project talks, ask questions, and then determine the winners list. Again, no major injuries have been observed.

Judging of Grades 10-12 finishes pretty much on time at 11:45 a.m. However, the Grades 7-9 judging invariably takes longer (mostly due to delays in the first round) with the overall results turned in to OAS at 12:45 p.m.

The level of the projects is truly inspiring. The section awards cash prizes of \$200, \$100 and \$50 for first through third places and all winners (including Honorable Mentions) receive professionally done certificates courtesy of Chemical Abstracts. Here are the 2008 winner titles:

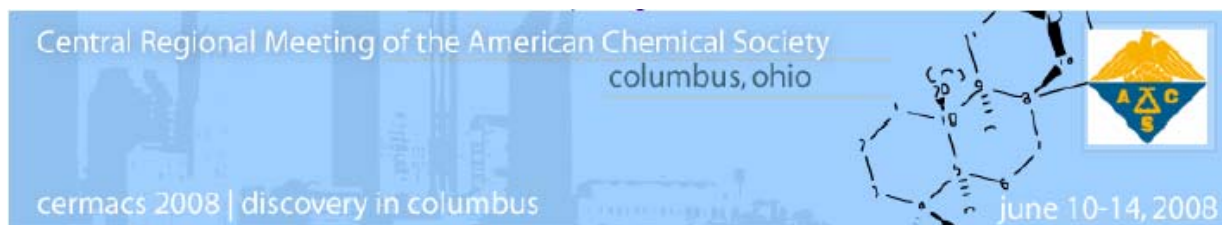
Grades 7-9				
Place	Name	Grade	School	Title
1 <sup>st</sup>	Erik D. Stanbery	9	Norwalk Catholic	<i>The Effect of the Movement of Fluid on Electrogalvanism</i>
2 <sup>nd</sup>	Matthew Tan	7	Mason HS	<i>Bug Power: Hydrogen Gas from American Cockroaches</i>
3 <sup>rd</sup>	William R. Rinaldi	7	All Saints, Cincinnati	<i>Burning Calories</i>
HM	Rebekah G. Douglass	8	Ashland Christian	<i>Which Brand of Black Pen Contains the Most Pigments?</i>
HM	Becky A. Schmitthenner	8	John C. Dempsey MS, Delaware	<i>How Temperature Affects Reaction Rates</i>
Grades 10-12				
1 <sup>st</sup>	Sarat Tallamraju	10	Solon HS	<i>Can Pond Scum Be the Future of Alternative Energy? Extracting Oil from Algae: A Study of Variables Affecting Biofuel Production</i>
2 <sup>nd</sup>	Julia Hu	11	Sylvania Southview HS	<i>Electrochemical Studies of Novel Quinones Through Cyclic Voltammetry</i>
3 <sup>rd</sup>	Laura S. Bailey	11	Piketon Jr/Sr HS	<i>A Comparative Analysis of Nitrate Detection Methods</i>
HM	Nicole M. Tromp	10	Archbishop Alter, Kettering	<i>Determining Antacid Effectiveness Using Chemical Titration</i>

After running this program for five years, I feel it is time to transition the duty to another person with whom I intend to work closely in 2009 to assure its continuing success. The major annual task remains the recruitment of judges from within the section. Greater participation from area chemistry departments (junior professors, graduate students and post-docs) would go a long way to lessening the recruitment effort.





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### CERMACS 2008 PRELIMINARY REPORT By Maria Rosenthal

The 2008 Central Regional Meeting of the American Chemical Society was attended by about 750 persons, including guests: 224 ACS members, 6 ACS 50-year members, 12 registered guests, 6 complimentary/VIPs, 100 undergraduates, 12 high school chemistry teachers, 15 retired members, 41 post-doctorate members, 1 high school student, 217 graduate students, 28 non-members.

US attendees came from Alabama, California, District of Columbia, Delaware, Iowa, Illinois, Indiana, Kentucky, Massachusetts, Maryland, Michigan, Minnesota, Missouri, North Carolina, Nebraska, New Jersey, New York, Ohio, Oregon, Pennsylvania, Tennessee, Virginia, Vermont, Washington State, Wisconsin, and West Virginia. The largest contingent was from Ohio, with good size groups from Indiana, Illinois, Pennsylvania, and Michigan.

International Attendees were from: Ontario, and Vancouver, BC, Canada; Taipei and Taichung, Taiwan [Republic of China]; and Sendai, Miyagi Prefecture, and Japan.

Most attendees are affiliated with universities and research institutes.

Industries represented include DuPont, Abbott Labs., Dow AgroSciences, Genzyme Corporation, Jade Scientific, Dow Chemical, Dow Corning, Ashland Inc., Jacobi Carbons, Abbott Nutrition, Ashland Performance Materials, Zyvex Performance, Universal Technology Corporation, METSS Corp., Bio-Rad Labs., Boehringer-Ingelheim RLI., Procter & Gamble, Battelle, CAS, and Molecular Technologies, Ltd.

Government attendees came from Wright Patterson AFB, NASA-Glenn Research Center, NIOSH, NCAUR/ARS/USDA, and the US Dept. of Energy.

Exhibitors included Book Factory, Vernier Software & Technology, CAS, Pine Research Instrumentation, Varian Inc., Jade Scientific, Chemglass, Inc., Hitachi High Technologies, McGraw-Hill Higher Education, GFS Chemicals, MeasureNet Technology Ltd., Molecular Biophysics and Structural Biology, Velocys, Inc.

Sponsors of the meeting included Aaptec, ACS Central Regional Meeting Steering Committee; ACS Divisions of Biological Chemistry, Environmental Chemistry, Inorganic Chemistry, Physical Chemistry, and Polymer Chemistry; Ashland Chemical Company; Battelle Memorial Institute; Chemical Abstracts Service; Cincinnati Section ACS; Columbus Section ACS; Ohio State University; Procter & Gamble, and Thermo Fisher Scientific.

The Regional Awards:

The *Stanley C. Israel Award for Advancing Diversity in the Chemical Sciences* was presented to the **Wonders of Our World Program** (WOW), founded and directed by **Professor Susan Olesik** of the Chemistry Department, OSU. Several CAS staff serve as volunteers in this program.

The *Chemical Education Division of ACS Award for Excellence in Chemistry Teaching* was presented to **Mr. Jeffrey D. Bracken**, of Westerville North High School.

The Awards Banquet speaker was **Mr. Dan Mushalko**, General Manager and Director of programming and Operations for WCBE-FM (Columbus City Schools) and Producer of "The Amazing Science Emporium" radio show. The title of his talk was: "With Nerd Power Comes Nerd Responsibility".



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The organization of the meeting, the venue (The Hyatt Regency in Downtown Columbus), the service breaks and food at luncheons received high compliments from attendees and from the ACS Regional Meetings Office. Attendees praised the presentation, readability and portability of the Program Booklet and CD of Abstracts, produced by CAS staff with great support from Marketing Communications.

### ACS COLUMBUS SECTION SUMMER OUTREACH—KIDS AND CHEMISTRY! By "Professor Jeff" Trent

Columbus Recreation and Parks - Camp Terra Simply Science – July 9th and August 13th Programs: ACS *Celebrating Chemistry* materials presented by **Professor Jeff** to 60 students age 6-12 and preschool age 4-5.

Columbus Section Outreach continued into the summer with two programs for Columbus Recreation and Parks. We were invited to present two ACS Chemistry Shows within the broader Camp Terra - Simply Science program. The ACS Columbus Section supports 50% of the material costs with a volunteer presentation while Columbus Recreation and Parks pays \$200 for each program. The ACS Columbus Section supports this with the Outreach Budget.

The programs were well received with clapping, ohs and ahs, and chorus of 60 voices shouting "Chemistry Rocks" in unison. A special thank you goes out to the ACS Columbus Section Executive Committee for support of this informal Chemistry education opportunity.

Program Description: Emphasized ACS *Chemists Celebrate Earth Day* literature, activities and educational goals. Set up 9:00 to 10 am - program 10am - 1 pm for 60 students Camp Terra ages 6-12 and Camp Terra Preschool ages 4-5.

#### Demonstrations:

- Liquid Nitrogen, shrinking balloons, shattered (racquetball, cabbage leaf and flowers), banana hammer, and N<sub>2</sub> Fountain.
- Dry Ice - bubble fountain (catch a cloud), pH color changes, fire extinguisher, bubbles and smoke.
- Bubble Making Machine (lots of bubbles).
- Balls of Flame - Ethanolic Solutions of Li and Ca salts, Boric Acid (show excited electrons with Hoberman Sphere model).
- Polystyrene vs Biodegradable starch pellets solubility in water.
- Dissolved Gases- carbon dioxide Carbonation Demonstration and description of oxygen in water.
- Chilling Grilling - Liquid freezer pops placed in liquid nitrogen for rapid freeze (sounds like a sizzling grill). Everyone received a frozen treat.

#### Hands on Tables: 6 Tables

- Water Cycle Wrist Bands: solar energy, evaporation, transpiration, condensation, precipitation, percolation.
- Display Table - ACS *Celebrating Chemistry* Posters - Free *Chemists Celebrate Earth Day* Literature, Temporary Tattoos, and Stickers.
- Water Bead Race - Cohesion and Adhesion of Water on Wax Paper race track.
- Colorful Biodegradable starch pellets - Make Chemical Formula of H<sub>2</sub>O, CO<sub>2</sub>, O<sub>2</sub>, and N<sub>2</sub> to take home.
- Blue Slime Table - Mixed Polymer from Elmer's Glue and Liquid Starch.
- Avogadro's Bubbly Adventure - CO<sub>2</sub> solubility in hot and ice cold water, shaking soda collecting gas in balloons.

#### Activity Stations: 5 Stations

- Catch a Cloud (indoor) - CO<sub>2</sub> fountain produces white water vapor bubbles falling toward fish pond. Children caught the clouds in their hands.
- Get inside the Atom (indoor) - Giant Hoberman sphere students could climb into and rest their protons and neutrons a moment on the bean bag.
- Giant Bubble Station (outdoor) - hoola hoop size bubbles, kids fit inside bubble, and bubble machine for lots of bubbles.
- Fire Engine- "fire extinguisher station" Large inflatable fire engine with colorful play spheres. CO<sub>2</sub> spheres smothered simulated fire in a basket by filling the basket to displace oxygen, putting out the fire. (bucket brigade works faster).
- Flight Area - Air 78% N<sub>2</sub>, 21% O<sub>2</sub> and some CO<sub>2</sub> holds up the giant Frisbees and parachutes, and propels air rockets and rocket balloons.



Chemistry it's Elemental! Nitrogen, Copper, Oxygen, and Silicon displayed.



"Do I have to wear my Goggles?" Yes, Safety first!... Then Fun.

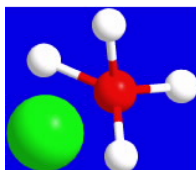
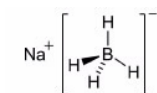


Look something interesting is about to happen!  
Why? Because it's Chemistry!



Oooh!..The white cloud is still cold after Carbon Dioxide gas from Dry Ice was used to extinguish the candle flame.

Note: Photos from ACS 2007 Outreach during Camp Terra Simply Science. The ACS Columbus Section was invited to make two presentations in 2008 based on reception to earlier programs. The 2008 program was similar to 2007 with a stronger emphasis on the ACS *Chemists Celebrate Earth Day* literature found online at [www.acs.org/earthday](http://www.acs.org/earthday).



## Molecule of the Month: Sodium Borohydride

**Sodium borohydride** ( $\text{NaBH}_4$ ) is one of the handiest reducing agents, especially for organic compounds in nonaqueous solvents. It was introduced in the 1940s for wartime applications and was an important enough reagent by 1970 to warrant a lengthy review. It has been used to reduce aldehydes, ketones, Schiff bases, carboxylic acids and esters, acid chlorides, disulfides, nitriles, and inorganic anions. For many of these substrates, only gentle reaction conditions are required.

[Get more information on this molecule](#) from CAS (Chemical Abstracts Service)



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## CELEBRATE NATIONAL CHEMISTRY WEEK OCTOBER 19-25, 2008

This year's celebration of National Chemistry Week (NCW), with the theme, *Having a Ball with Chemistry (The Chemistry of Sports)*, will be a very special celebration! The mission of NCW is to reach the public, particularly students, with positive messages about chemistry and to provide a means of effectively mobilizing ACS local sections.



When former ACS President **George Pimentel** conceived the idea of celebrating National Chemistry Day in 1987, he never could have predicted where his idea would lead. From a one-day celebration, National Chemistry Day grew into National Chemistry Week. From a biennial celebration, the celebration became an annual event in 1993. The program has been the recipient of several prestigious public relations and association awards.

Join with ACS this October 19-25 to celebrate *Having a Ball with Chemistry*, emphasizing the chemistry of sports.

## VOLUNTEERS NEEDED FOR NATIONAL CHEMISTRY WEEK CHEMISTRY DEMONSTRATIONS *Saturday, October 25, 2008*

Volunteers are needed to help guide the public in performing chemistry demonstrations on Saturday, October 25, at the Columbus Metropolitan Library, Main Branch, 96 South Grant Avenue. The experiments are simple (acid-base reactions, making "slime", generating carbon dioxide from baking soda and acetic acid, etc.) *COSI on Wheels* and volunteers from the Columbus Section of the American Chemical Society will provide all of the chemicals, setup, and supplies, and we will show you what to do. We are extremely grateful to our friends at GFS Chemicals for sponsoring this important educational event.

This is a terrific way to introduce kids (and adults) to chemistry and show them that science is indeed FUN! If you are not comfortable performing demonstrations we also need volunteers for "crowd control" (greeting guests, making sure everyone has safety glasses, etc.)

Shifts are from 10-12, 12-2, and 2-4. If you would like to sign up for a shift (or two), please contact **Professor John Blaha** at 614.287.5930 or [jblaha@cscc.edu](mailto:jblaha@cscc.edu)

## EXPLANATION OF THE COLUMBUS SECTION PROPOSED BYLAWS CHANGES *By Steven Rosenthal, Section Bylaws Chair*

Back in late 2005, the Executive Committee was interested in implementing electronic voting for the section election. However, the Section Bylaws required the use of printed ballots which are mailed to our members. Based on this, the Executive Committee requested the Bylaws Committee to propose a revision of the Section Bylaws. Proposed Bylaw revisions were prepared. In February, 2006 the Executive Committee approved the revisions. The proposed Bylaw revisions were then submitted to the Constitution and Bylaws Committee in March for review and approval. In September, 2007 the Section received a letter from the Society indicating approval of the proposed changes and other recommendations.

A summary of the proposed Bylaw revisions are given below.

Bylaw changes with regard to Members and Affiliates are as follows: Elimination of Associate Members and Student Affiliates; and National Affiliates were changed to Society Affiliates. These changes were made to conform with changes made by the Society and approved by the Council and Board.





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Provisions and changes for electronic voting include the following: Elimination of the terms Tellers Committee and printed ballots in the Bylaws. Ballots are distributed to members. The method of distribution is not described, but must follow the Bylaws of the Society. The wording used is generic to provide flexibility in the election process. It allows for use of printed and/or electronic ballots.

Procedures for the recall of elected officials are described in Bylaw VII. The old Bylaws did not cover this issue.

A copy of the proposed Bylaw revisions will available at the Columbus Section website. (*Editor's Note: Members who do not have Internet access may obtain a hard copy by mail by contacting George Greene at 614-624-3362.*)

### HELP WANTED



### Data Analysis Technologies, Inc.

Is seeking applicants for the following positions:

**Laboratory Technician- Organic Extractions-** 0- 2 years laboratory experience, Organic Extractions a plus. Associate, BS/BA degree in chemistry or allied field.

**Laboratory Technician- Sample Custodian-** 0-2 years laboratory experience. Associate degree in chemistry or allied field.

**Quality Assurance Professional:** The position is for a quality assurance professional. Qualifications include BS/BA, MS or Ph.D. degree in chemistry or allied field, 5-10 years in the quality assurance area including project management, data validation of organic and inorganic using CLP guidelines, the successful candidate will also serve as the laboratory QAO and safety officer.

Resumes to: e-mail to [datlab@infinet.com](mailto:datlab@infinet.com) web [www.datlab.com](http://www.datlab.com)

Data Analysis Technologies, Inc., P.O. Box 3131, Dublin, OH 43016

**DAT** is an Equal Employment Opportunity/Affirmative Action/Immigration/Reform and Control Act/Americans with Disabilities Act Employer.

### COLUMBUS SECTION ACS CALENDAR OF EVENTS

2008	September	11	Thu		5:00 PM: Deadline for making reservations for September Section meeting.
2008	September	16	Tue	Clintonville Woman's Club, 3951 N. High St.	Monthly Section meeting: <b>Jeffrey Seeman, A Human Side of Chemistry: A Portrait of Contemporary Heroes.</b> See details elsewhere in this issue of <i>The Chemical Record</i> .
2008	September	22	Monday		Deadline for submission of material for the October, 2008 issue of <i>The Chemical Record</i> .
2008	October	21	Tue	Chemical Abstracts Service, 2450 Olentangy River Road	Monthly Section meeting with ACS President-Elect, <b>Dr. Thomas Lane</b> , and presentation of 50-Year Member awards.
2008	October	19-25	Sun-Sat	Here, There, Everywhere!	<b>National Chemistry Week.</b> <i>Having a Ball with Chemistry (The Chemistry of Sports.)</i>





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#### ABOUT ACS

The American Chemical Society is a self-governed individual membership organization that comprises more than 158,000 members at all degree levels and in all fields of chemistry. The organization provides a broad range of opportunities for peer interaction and career development, regardless of professional or scientific interests. The programs and activities conducted by ACS today are the products of a tradition of excellence in meeting member needs that dates from the Society's founding in 1876.

#### ABOUT THE CHEMICAL RECORD

*The Chemical Record*, official newsletter of the Columbus Section of the American Chemical Society, Inc., is published monthly, February-May and September-December (eight issues per year.) Opinions expressed by editors or contributors do not necessarily represent the official position of the Columbus Section or of the editorial staff. We welcome your contributions to your *Chemical Record*. Please submit them via postal or electronic mail to George Greene, PO Box 360941, Columbus, Ohio 43236-0941, [george.greene@abbott.com](mailto:george.greene@abbott.com). Electronic mail contributions should be in MS Word file attachments (preferred) or plain-text messages. When preparing electronic documents, please remember that you are no longer using the old Remington typewriter so you do not need to add a carriage return at the end of each line. *Thank you very much!*

#### CHANGE OF ADDRESS

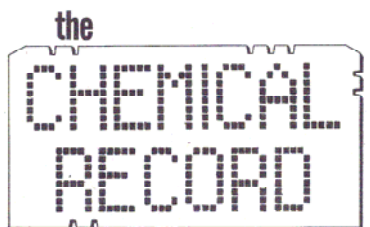
Changes in postal or e-mail address should be reported to the Membership Chair, **George Noethlich**, 2740 Bella Via Avenue, Columbus OH 43231-2305, e-mail [gnoethlich@wowway.com](mailto:gnoethlich@wowway.com). George will forward the change-of-address information to ACS Headquarters.

#### ADVERTISING RATES

Advertising rates for *The Chemical Record* are as follows (per single insertion): Full Page, \$250; Half-page, \$150; Quarter Page, \$120; Eighth Page: \$60; Business Card, \$50. Discounts: 5% for four insertions or 10% for eight insertions during a calendar year. There is no charge for "help wanted" ads.

#### SECTION E-MAIL ROUTING

Please send items for distribution to the Section e-mail list to **Stephen Renner** ([srenner@cas.org](mailto:srenner@cas.org)) and **Maria Rosenthal** ([mrosentha@cas.org](mailto:mrosentha@cas.org)). Maria and Stephen will perform any necessary formatting then they will forward the message to **John Todd**, Electronic Communications Coordinator, for distribution. If you would like to be added to the e-mail distribution list, please contact John Todd ([jtodd@cas.org](mailto:jtodd@cas.org))



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