

# CINTACS



Newsletter of the Cincinnati Section of the American Chemical Society

April, 2011  
Vol. 48, No. 7

## Meeting Calendar

- Apr. 13 Education Awards Night  
@ NKU; Dr. Al Hazari,  
U of Tenn., featured speaker
- Apr. 16 Earth Day Celebration,  
Sawyer Point
- May 17 Party Night @ Jungle Jim's  
Dr. Michael Tunick

## In This Issue

April meeting announcement: Education Awards Night at NKU	1
From the Chair	2
April meeting at NKU — Directions	3
Prof. Hazari biosketch & abstract High School Chemistry Teacher of the Year, 'Del' Eheman	4
Elementary School Science Teacher of the Year, Chris Cornelssen	5
UC Zimmer Scholar, Prof. Dr. Matthias Rief	6
Earth Day 2011— Last call for Volunteers	7
Call for section meeting sponsors Winners of UC Science & Engineering Expo	8
Call for Volunteers — National Chemistry Week	9
Int'l Year of Chemistry activities Celebrating Chemistry, Earth Day & IYC	10
Call for science tutors— Hughes STEM H.S.	11-12
Statistical Analysis of Laboratory Data course announcement	13
ACS Cincinnati Section Website Survey	14
	15
	16

## APRIL MEETING Wednesday, April 13<sup>th</sup>, 2011

**Northern Kentucky University  
Highland Heights, KY**

*Sponsored by Girindus America, Inc.*

**Featured Speaker: Dr. Al Hazari**  
University of Tennessee Professor and Science Educator

## Program

5:00 pm Board Meeting: Student Union 109

5:30 – 7:00 pm Registration: Student Union 100L

6:00 – 7:00 pm Dinner: Student Union Ballroom 107A

Buffet: Beef tips with brown gravy, poached salmon, garden salad with ranch and balsamic dressings, wild rice, green beans, sugar snap peas, rolls with butter, cherry pie; coffee, tea and water. Vegetarian meal available. \$20.00 (\$10.00 students, emeritus, unemployed and new members)

7:00 pm Student awards presentations

7:15 pm Prof. Al Hazari, "Chemistry in Comics"

8:15 pm Science teacher award presentations

## Dinner Reservations:

The meeting reservation form is online at <http://registration.acscincinnati.org>. Alternatively, register by email at [webmaster@acscincinnati.org](mailto:webmaster@acscincinnati.org). As a last resort, call 513-626-0242 (please leave name, affiliation, a contact phone number and state if you are in one of the reduced price categories). Deadline for registration is 12:00 noon on April 11<sup>th</sup>.

*(Continued on page 3)*

**THE CINTACS NEWSLETTER****Vol. 48, No. 7 April, 2011**

Editor.....Kevin Ashley  
 Advertising.....Dan Esterline

CINTACS is published eight times a year (September through May) by the Cincinnati Section of the American Chemical Society. The submission deadline will be early-mid April for the May 2011 issue. Electronic submission is strongly preferred. All materials should be sent to:

Dr. Kevin Ashley  
 CDC/NIOSH  
 4676 Columbia Parkway  
 Mail Stop R-7  
 Cincinnati, Ohio 45226-1998  
 Tel.: (513) 841-4402  
 Fax: (513) 458-7189  
 E-mail: KAshley@cdc.gov

**ACS Cincinnati Section**Chair:

Victor Arredondo  
 (513)626-0242  
 arredondo.vm@pg.com

1st Vice Chair & Chair-Elect:

Rich Mullins  
 (513)745-3361  
 mullins@xavier.edu

2nd Vice Chair:

Gloria Story  
 (513)627-2840  
 Story.gm@pg.com

Secretary:

Jamie Heimkreiter  
 (513)557-4213  
 jheimkreiter@petercremerna.com

Treasurer:

Ed Hunter  
 (513)522-6199  
 edhunter@fuse.net

Trustee (Chair)

John Janusz  
 (513)262-0247  
 johnmjanusz@gmail.com

**From the Chair**

On April 13<sup>th</sup> at our Education Awards Night at Northern Kentucky University (NKU) we will be celebrating the science achievements of teachers and students alike from the Tri-State. Congratulations to the 2011 Elementary Science Teacher of the Year Criss Cornelissen of Winton Woods Elementary School and to the 2011 High School Teacher of the Year Daniela Ehemann of Highlands High School. We also recognize Lillian Canterbury & Katherine Ann Headly of Summit Elementary, Rachel Fagan of All Saints Elementary, and Bluyé DeMessie of Mason Middle School, winners of the Cincinnati Section Awards in Chemistry and Biochemistry at the Southwest District Science & Engineering Expo held at the University of Cincinnati on March 12<sup>th</sup>; as well as the students winners of the 2010 National Chemistry Week Poster Contest previously announced.

I want to thank Girindus America Inc. for sponsoring our Education Awards Night meeting at NKU. Our guest speaker is Dr. Al Hazari, Director of the Undergraduate Chemistry Labs and a Lecturer in Chemistry at the University of Tennessee, Knoxville. He is a very well known educator who works extensively with public outreach programs aiming to make science, and chemistry in particular, interesting to everyone. I anticipate a fun night of chemistry and surprises through his talk "*Chemistry in Comics*".

The Section had a very well attended, celebratory and interesting February meeting honoring Dr. Apryll Stalcup of the University of Cincinnati, Department of Chemistry as the 2011 Chemist of the Year and Mr. Robert E. Shumate of Procter and Gamble as the 2011 Research Associate of the Year; see pictures below.



Prof. Apryll Stalcup and Robert E. Shumate with Dr. Victor Arredondo

I want to thank ACS members of the Cincinnati Section responsible for the programs that allow us recognized all the awardees at our April meeting; Phil Christenson Chair of the Awards Committee and members of this committee; John Janusz, George Rizzi, David Bom, and Ashley Scioneaux for judging at the Science & Engineering Expo; and Jamie Heimkreiter for leading the NCW poster contest.

Mark your calendars; you do not want to miss our Annual Party Night on May 17<sup>th</sup> at the Oscar Center located in Jungle Jims in Fairfield. Dr. Michael Tunick will be our guest speaker; he will talk about the

(Continued on page 17)

(Continued from page 1)

**APRIL MEETING**  
**Wednesday, April 13<sup>th</sup>, 2011**

*Sponsored by Girindus America*

**Northern Kentucky University**  
**Highland Heights, KY**

**Featured Speaker:**

**Dr. Al Hazari, “*Chemistry in Comics*”**  
Professor and Science Educator, University of Tennessee

Directions to NKU:

The meeting will be held at the Student Union (SU107A), which is on Kenton Drive.

The board meeting and workshop will also be held at the Student Union (SU109 & 108).

From downtown Cincinnati:

Go east on U.S. Highway 50 (Columbia Parkway) and take Exit 1J, I-471 South, Newport, Kentucky.

Go south on I-471 to the traffic light at the intersection of I-471 and U.S. Highway 27.

Continue straight and turn right at the next traffic light onto Nunn Drive.

Turn right at the roundabout (University Drive) and then left at the traffic light (Kenton Drive).

Park in the Kenton Drive Parking Garage.

From the East on I-275 (e.g., if coming from the Greater Cincinnati / Northern Kentucky Airport):

Take Exit 76, "Three Mile Road/Northern Kentucky University." Turn right.

Turn right at the traffic light (Kenton Drive).

Park in the Kenton Drive Parking Garage.

From the West on I-275:

Take Exit 74A, toward Alexandria, leading to I-471 south.

Go to the traffic light at the intersection of I-471 and U.S. Highway 27.

Continue straight and turn right at the next traffic light onto Nunn Drive.

Turn right at the roundabout (University Drive) and then left at the traffic light (Kenton Drive).

Park in the Kenton Drive Parking Garage.

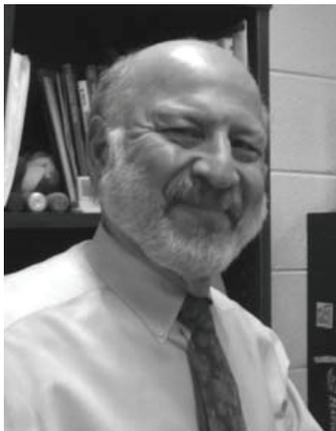
Parking:

Guests must park in The Kenton Drive Parking Garage and NOT in the surface lots to avoid ticketing. The Kenton Drive Parking Garage is across the street from the Student Union, where the meeting will take place. The parking fee of \$3.00 can be waived if you bring your ticket for validation to the registration desk.

A campus map showing the Kenton Drive Garage and the Student Union can be found at:

<http://admissions.nku.edu/visit/campusmaps.php>

---



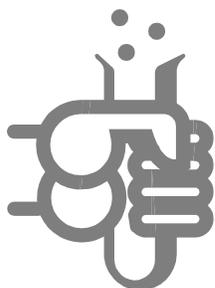
**Prof. Al Hazari**  
University of Tennessee

A native of Lebanon, Al received a B.S. degree in Chemistry from the American University in Cairo. He also holds an M.S. degree in Chemistry from Youngstown State University in Ohio and a doctorate in Science Education from the University of Tennessee, Knoxville. Al has taught science and chemistry for several years at the school and the college levels here and overseas.

Currently, he is the Director of the Undergraduate Chemistry Labs and a Lecturer in Chemistry at the University of Tennessee, Knoxville. In addition, he regularly teaches science education courses in the College of Education. He has received several grants from government agencies, industry, and various organizations to improve undergraduate chemistry lab instruction and also to support K-16 hands-on science and chemistry outreach activities.

He was the 2000 recipient of the ACS Helen M. Free Award for Public Outreach. Al is a very active ACS member. He is a former chair of the ACS Committee on Chemical Safety, an ACS tour speaker, and the councilor for the ACS - East Tennessee Section. Recently, he became the President of East Tennessee's Southern Appalachian Science and Engineering Fair. Al is an affiliate of the Institute for Chemical Education and a member of both the National and the Tennessee Science Teachers Associations. He has made several presentations and given talks at local, regional, national and international chemical and science education conferences. His book on "Misconceptions in Chemistry" was recently published by Springer.

## Chemistry in Comics



Just as humor is most entertaining when its theme fits the topic of conversation, so too comics that depict chemistry situations and/or materials are most effective as a teaching strategy when they reinforce a topic or concept students are currently studying. A variety of chemistry comics (over 100 !) will be presented, and the learning situations into which they best fit will be discussed.



---

**ACS Cincinnati Section  
High School Chemistry Teacher of the Year****Daniela “Del” Ehemann**  
Highlands High School

Del Ehemann brings a dynamic personality, an enthusiasm for learning and an engaging teaching style to provide a challenging, but fun and exciting educational experience to her students at Highlands High School, where she teaches Advanced Chemistry, AP Chemistry and Applied Chemistry. Del, a graduate of Northern Kentucky University with an ACS accredited degree in Chemistry, came to teaching after a successful 15 year career in industry. First, at Advanced Testing Laboratory, then, at Hill Top Research, Del held laboratory as well as business development positions and that experience brings a real world perspective to her teaching. Mrs. Ehemann added a Masters of Education in Educational Administration from Xavier University in 2008. After four years at Bishop Brossart High School where she taught chemistry and served as Science Department Chairperson, she joined the faculty at Highlands in 2009.

In Del's relatively short period of time at Highlands High School she has demonstrated an incredible ability to work collaboratively within the department and to invigorate the science instruction at Highlands. Chemistry is a course that historically challenges students in ways that make them quite uncomfortable. Brian Robinson, Highlands High School Principal, comments that "teachers often find it difficult to push students academically and yet maintain a learning environment that encourages them to keep trying and take risks. But Mrs. Ehemann has worked tirelessly with our veteran Chemistry teacher as a partner to find the right mix". In addition, Del is able to connect with both students who possess the talent to pursue Chemistry in college and students for whom Chemistry is quite difficult. Mrs. Ehemann has found innovative ways to deliver material. She searched and located pod casts that would allow students to access information outside the boundaries of her classroom thus allowing class time to be used to explore the content through laboratories and problem solving. Del has a way of making complex chemistry concepts seem simple. She incorporates videos, songs, food, storytelling, and makes great use of current events in an effortless way to make chemistry more understandable and to connect it to the real world.

Mrs. Ehemann has also extended classroom learning through community service activities. This past year, Del initiated a service learning project in conjunction with Procter and Gamble. Students discussed and conducted laboratory research that related to the water conditions faced in many lesser developed countries. The Chemistry students at Highlands were able to raise over \$3,000 for the Children's Safe Drinking Water (CSDW) Foundation and brought public attention to a very worthy cause. This type of engagement brings to life the value of science to multiple students.

Outstanding teachers such as Del Ehemann have a tremendous positive impact on students and that might best be seen from a student's own words: "For me in particular, Mrs. Ehemann's impact on my life and the lives of many Highlands High School has been made possible through her positive attitude and her overall love for us, teaching, and chemistry. If Mrs. Ehemann wasn't my teacher, I would be a completely different student and would not know what I want to pursue as a career in my life. Mrs. Ehemann's teaching techniques have impacted my decision to pursue a career in the sciences." Congratulations Del!!

---

---

**ACS Cincinnati Section  
Elementary School Science Teacher  
of the Year**

**Cris Cornelssen**  
Winton Woods Elementary School



Cris Cornelssen, a 14-year veteran Science teacher, has combined her love of kids and love of science with organizational skills and instructional creativity to provide an outstanding educational experience in science for fourth and fifth graders at Winton Woods Elementary School.

After graduating from Miami University, Oxford, Ohio with a Bachelor of Science degree in Elementary Education, Cris Cornelssen has spent her career in public education serving students from a variety of ethnic and socioeconomic backgrounds. She is a very caring, diligent and highly motivated educator. Cris teaches science in an “elementary science laboratory” which she created and emphasizes student inquiry in teaching science. Her science lessons are considered the unifying force in her school’s best-practice-driven Science curriculum and have been implemented throughout the fourth and fifth grade. Her lessons are taught to over 500 students in 22 different classrooms. In addition, she is considered to be highly collaborative with her fellow staff members. She supports classroom teachers in connecting science to other subjects and connecting other disciplines to science.

Cris Cornelssen is also active outside of the Winton Woods community. She has been associated with the Center for Chemistry Education (CCE) since 1993, when she participated in a Teaching Science with Toys workshop. Since 1996, she has participated as a Master teacher in CCE professional development programs for teachers, both at CCE and in her district. Since 2002 she has been involved in sharing her expertise and hands-on, minds-on science teaching activities with her peers in the Ohio Board of Regents project “Advancing Ohio’s Physical Science Proficiency Program” facilitated by CCE. Always willing to learn, Cris mastered the inquiry “writing to learn science” component of the “Advancing Ohio’s Physical Science Proficiency Program”. Cris uses inquiry to great effect in her own teaching and has shared her enthusiasm for student inquiry with her peers in this program. She is also an Instructor in Science Education at Miami University, Oxford, Ohio.

In 2009, Cris Cornelssen was honored by the Hamilton County Solid Waste Management District with their “Outstanding Recycling Educator” award for her help in securing a \$10,000 grant from Walmart to develop a land lab at Winton Woods Elementary, her support of the Forest Park Environmental Awareness Program’s Environmental High IQ Bowl, and her help with the school’s paper recycling program and with the Rumpke Recycle Challenge.

“Cris Cornelssen has demonstrated exceptional instructional ability and expertise in Science,” commented Steve Denny, her former principal. “She has made outstanding contributions to the Winton Woods community as well as to the larger regional educational community. I consider her one of the finest educators with whom I have ever had the pleasure of serving.” Clearly, Cris Cornelssen is well deserving of recognition by the Cincinnati Section as Elementary School Science Teacher of the Year.

---



## **Hans and Marlies Zimmer International Scholar**

**Prof. Dr. Matthias Rief**  
**Technische Universität München, Germany**  
<http://www.bio.ph.tum.de/>

**Zimmer Scholar In-residence**  
**April 11-15, 2011**

The Department of Chemistry at the University of Cincinnati is very pleased to present the ninth series of lecture-visits by international scholars actively engaged in areas of frontier chemical research.

**Friday, April 15, 2011 at 4:00 p.m.**

**502 Rieveschl**

### **Mechanics and Dynamics of Single Protein Molecules**

Proteins are amazing molecular machines that can fold into a complex three dimensional structure in a self-organization process called protein folding. Even though powerful structural methods have allowed us taking still photographs of protein structures in atomic detail, the knowledge about the folding pathways and dynamics as well as material properties of those structures is rather limited. Over the past 15 years, our group has developed single mechanical methods to study the dynamics and mechanics of protein structures. In my talk I will discuss how single molecule atomic force microscopy and optical tweezers can be used to investigate and control the conformational mechanics of individual proteins. Examples include molecular motors as well as protein folding and protein-protein interactions.

Matthias Rief obtained his PhD in Physics in 1997 at the Ludwig-Maximilians-Universität München, Germany, working with Prof. H. E. Gaub in the field of dynamic spectroscopy of biomolecules. He continued his studies with a DFG sponsored postdoctoral fellowship at Stanford University in the laboratory of J. A. Spudis that focuses on the structure and function of molecular motors. Since 2003, Matthias Rief has been a full professor of Biophysics at the Technische Universität München. He is also Principal Investigator at the Nanosystems Initiative Munich (NIM). In January 2010, Prof. Rief became the coordinator of a new, DFG sponsored, Collaborative Research Centre (SFB) in Munich entitled "Forces in Biomolecular Systems".

Matthias Rief is one of the leading experts in the single molecule spectroscopy of biomolecules. He has made landmark contributions to the understanding of the mechanics of molecular motors and of the fundamental role played by the energy landscape of a biomolecule in response to tension. Prof. Rief has been recognized with a number of awards, including the Jahrespreis of the German Biophysical Society, the Heinz Maier-Leibnitz Prize from the DFG, and the Nanowissenschaftspreis.

Additional information on the Zimmer International Scholar Program/Banquet can be found at:  
[http://www.che.uc.edu/alumni\\_community/zimmer/](http://www.che.uc.edu/alumni_community/zimmer/)

## Earth Day 2011—Last Call for Volunteers

Dear Volunteers!!

Hello! My name is Donna Wiedemann; I am leading our ACS Earth Day Celebration 2011 at Sawyer Point this year. The theme of the ACS Earth Day event is "Energy – It's Everywhere!" where we will focus on the many types of energy that will sustain our earth. The event this year will be on April 16<sup>th</sup> from noon until 5:30 pm.

Please let know whether you will be volunteering for to help out on Earth Day. I can be reached at (513) 627-7584 or via email at [wiedemann.dj@pg.com](mailto:wiedemann.dj@pg.com). I would like to have at least two people at the booth at any given time. Of course more are welcome! Typically it is broken down to set-up ~8:30- 11 am, first shift from noon until ~3 pm and the second shift from ~3 pm until 5:30 pm and also helps shut down. These times of course can be flexible

I would like to have a team of people to help with developing demonstrations consistent with this year's themes. All ideas are welcome. Once I hear from those interested in participating this year I will set up a teleconference to explore demonstration ideas. I envision we'll have some demos we will only perform and yet others where visitors to the booth can do themselves.

Thank you for your time and attention!! I look forward hearing from you and another year of working together to show how chemists can work in concert with our environment.

-Donna Wiedemann

**VISIT THE ACS  
CINCINNATI SECTION  
ONLINE:  
[www.acscincinnati.org](http://www.acscincinnati.org)**

## SPONSORS SOUGHT FOR 8 SECTION MEETINGS IN THE 2011-2012 PROGRAM YEAR

We are seeking sponsors for each of our 8 monthly Section Meetings in the new program year. Sponsorship entails a commitment of sponsorship (cash or cash equivalent) of \$1000 to essentially pay for the many expenses associated with a quality meeting to be presented to the membership. These expenses include retiree and student meal discounts, speaker's expenses, travel, housing, food, A/V, room rental for the meeting, and a Social Hour where attendees can meet others and build networks and contacts for career growth and enhancement.

Sponsors are recognized in all of the eight yearly issues of CINTACS, and by introduction at the sponsored meeting. This "advertisement" is of great value, especially to new companies in the Cincinnati area. In several instances this has led to participation in governance activities in the Section.

Over the past seven years of this successful program, companies, academic departments, retirees, and faculty have been sponsors of monthly meetings. We are always striving to broaden the base of sponsors as this leads to better representation in Section programs and services to the membership.

If you or your employer has an interest in being a sponsor, please contact the undersigned for more details. Beyond these volunteers, we will be making phone calls and letter contacts to reach our goal of eight sponsors. Every effort will be made to align the Sponsor's areas of interest with our monthly topics.

Currently contact Dan Esterline at:  
[Daniel.Esterline@Thomasmore.edu](mailto:Daniel.Esterline@Thomasmore.edu)

[for Ted J. Logan, CHAIR  
Sponsorships and Solicitations Committee

---

## 2011 Local ACS Award Winners from the Southwest District Science & Engineering Expo

On March 12<sup>th</sup>, the Southwest District Science & Engineering Expo was held at the University of Cincinnati. There were 46 chemistry projects submitted by 6<sup>th</sup> to 12<sup>th</sup> grade students from the greater Cincinnati area. A committee of Cincinnati section members attended the expo and judged the chemistry projects. The local section selected one outstanding project from each of the 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> grades to receive \$100 awards. Congratulations to the following students and schools.

### **6<sup>th</sup> grade: Lillian Canterbury & Katherine Ann Headly, Summit Elementary: “How do different liquids and pH affect the rusting of steel wool?”**

Rusting is a common form of corrosion of man-made steel structures throughout the world. However, the factors that accelerate or promote rusting formation on man-made steel structures are not thoroughly understood. The prevention of rust formation and the repair of manmade structures from corrosive rust damage have been economically costly. It has been noted that wet-surfaces and oxygenation promote rust formation. We tested how liquids such as water and vinegar (an acidic solution) affect rust formation. In addition, we examined the effects of pH on rust formation. Steel wool (of the same size) was placed in 300 ml beakers of (1) water, (2) orange juice, (3) milk, (4) vinegar, and (5) Sprite under the same experimental conditions to test for rust formation. Rust formed faster in the water solution than the other liquids. To test the effects of pH on rust formation on steel wool, we setup pH solutions using either dilute HCL or NaOH. A pH meter was used to determine the correct pH of our solutions. We found that rust accumulation was highest at pH 3, but formed faster at pH 5 and 7. Little rust formation occurred in the pH 9 setup and no rust formation was noted at pH 11. Results of our experiments will be discussed in the context of (1) effects of liquids on rust formation, (2) affects of pH, and (3) societal implications.

### **7<sup>th</sup> grade: Rachel Fagan, All Saints Elementary, “Pepper Heat”**

Capsaicin is the chemical in peppers that makes them spicy. The Scoville Scale is used to measure the amount of capsaicin in peppers in Scoville Heat Units (SHU). The Scoville Scale is commonly used by companies in advertising peppers and hot sauce, to identify their product’s “heat.” This project evaluated experimental hot sauce taste test results against the published Scoville ratings for six commercially available hot sauces. The hypothesis was that the experimental taste test results would closely compare to the published Scoville ratings. To test this hypothesis, twenty-one experimental subjects tasted nine different series of diluted hot sauces. Each subject tasted six different diluted hot sauces, starting with the least concentrated dilution. The hot sauces vary in Scoville value, from mild and sweet to spicy and hot. The subjects were asked to indicate when they could first taste the pepper or spice in the dilutions. All subjects then replicated three different series. After the data was collected, it was compared to the published Scoville ratings. The correlation coefficient,  $R^2$ , was used to quantify the relationship between the published values and the experimental results. An important part of taste testing is for the experimental subjects to be consistent. Consistent tasters rated two out of three (2/3) or three out of three (3/3) series the same. Similar to ASTM E 1395 - 90 (Reapproved 1997), only consistent (trained) subjects’ data was used. The experimental results closely compared (nearly perfect, rated as having  $R^2$  of 0.89 and 0.95) with the Scoville ratings.

*(Continued on next page)*

---





**ACS**  
Chemistry for Life™

## Outreach for the International Year of Chemistry

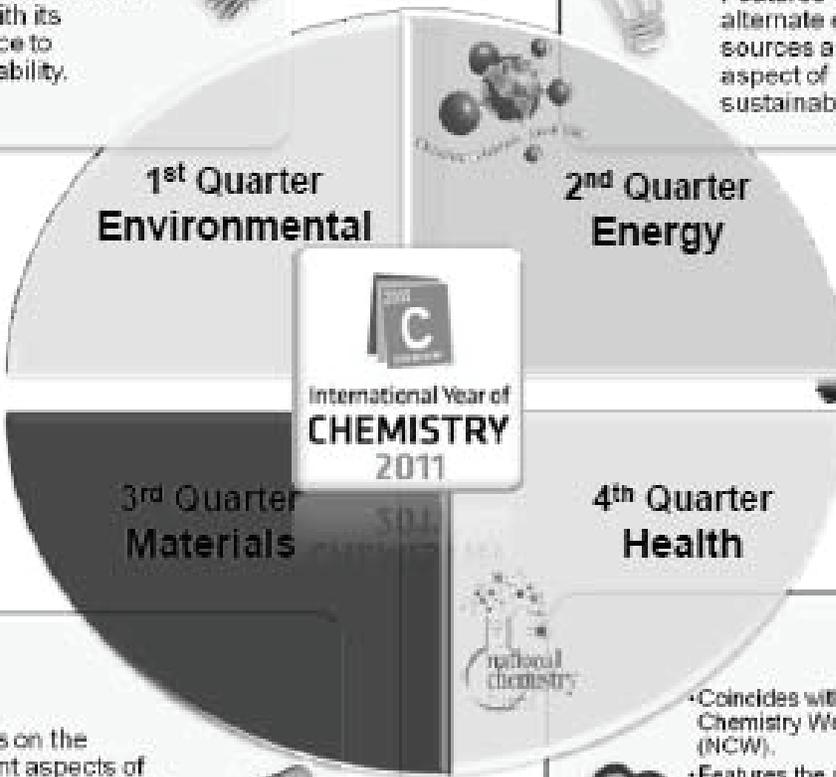
The ACS Committee on Community Activities invites you to celebrate the International Year of Chemistry!

Host festivals, make presentations at your local school or mall, partner with local civic organizations, and show how chemistry is an international science!

- Develops an awareness of water, its sources, and the importance of water purity with its relevance to sustainability.



- Coincides with Chemists Celebrate Earth Day (CCED).
- Features viable alternate energy sources as a key aspect of sustainability.

- Focuses on the important aspects of recycling, properties of materials, and nanomaterials.



- Coincides with National Chemistry Week (NCW).
- Features the positive impact of the chemical sciences on the world as it relates to nutrition, hygiene, and medicine.



**Water and the many faces of Chemistry will be included in each theme.**

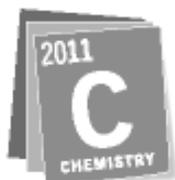
Let us know how we can help your local section have a successful IYC!  
Contact us at [cca@acs.org](mailto:cca@acs.org).

To learn more about IYC go to [www.acs.org/iyc2011](http://www.acs.org/iyc2011).



United States • Canada • Mexico • China • Italy • Spain • Japan • India • Indonesia • Brazil • Pakistan • Bangladesh • Nigeria • Russia • Philippines

Ethiopia • Egypt • Iran • Turkey • France • Thailand • United Kingdom • Myanmar • South Korea • South Africa • Ukraine



International Year of  
**CHEMISTRY**  
2011

## ACS Celebrates IYC 2011 ACS Chemistry for Life

WASHINGTON, Jan 31, 2011 The American Chemical Society (ACS) today launched the inaugural edition of its International Year of Chemistry (IYC) Virtual Journal, a dynamic online snapshot of the countless ways in which chemistry improves everyday life for people around the world. It includes a special video welcome from Nancy B. Jackson, Ph.D., who serves as ACS President during the IYC. Jackson is with the Sandia National Laboratories in New Mexico.

Every month through this landmark year, the IYC Virtual Journal <<http://iyc2011.acs.org/2011/01/01/virtual-journal/>> will showcase ways in which chemistry improves everyday life for people around the world. It illustrates how chemists and other scientists work to protect the environment; develop lifesaving new medicines; create cleaner, greener and more sustainable sources of energy; design new materials for cars, buildings, electronics, medical implants and a host of other products.

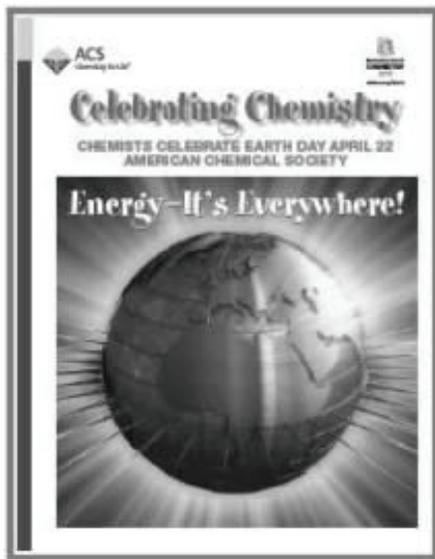
The four subject areas covered by the virtual journal: health, energy, environment, and materials, are the core themes of the International Year of Chemistry, noted Madeleine Jacobs, executive director and CEO of the ACS. Improving human health, finding sustainable sources of energy, protecting the environment, and developing new materials are among the great global challenges of the 21st Century. The International Year of Chemistry virtual journal provides a unique opportunity to enhance public understanding of the many contributions and solutions that chemists and other scientists are working on to address these great global challenges.

Topics in the launch edition of the IYC Virtual Journal include the use of tobacco and proteins in coffee beans as pesticides; a new genre of environmentally friendly detergents; raves from Europe about “no-mix” toilets; new lubricants that save gasoline and evidence that people over 50 may be consuming too much copper and iron. The virtual journal's content is based on research published in ACS' 39 peer-reviewed scientific journals <<http://pubs.acs.org/>> and *Chemical & Engineering News* <<http://pubs.acs.org/cen/>>, its weekly newsmagazine.

IYC Virtual Journal also connects visitors with content in ACS' popular online calendar, developed specifically for the IYC. The calendar serves as a virtual time machine, transporting the public back to some of the epic events and great intellects that shaped modern society through the magic of chemistry.

The IYC Virtual Journal and IYC: 365 are part of ACS' celebration of the International Year of Chemistry <<http://iyc2011.acs.org/>>

*ACS International Year of  
Chemistry Virtual Journal*



## Celebrating Chemistry

A free hands-on newspaper: [www.acs.org](http://www.acs.org)

## IYC 2011: Energy - It's Everywhere!



### What is Chemists Celebrate Earth Day?

ACS observes Earth Day with the Chemists Celebrate Earth Day (CCED) program. We offer a suite of events, contests, and educational resources that can be used by members, chemical educators, and chemistry enthusiasts to illustrate the positive role that chemistry plays in the world.

CCED 2011: "Energy-It's Everywhere!"

Learn about alternate energy sources as a key aspect of sustainability and the International Year of Chemistry 2011. [www.chemistry2011.org](http://www.chemistry2011.org)

Earth Day was first officially recognized on April 22, 1970 as a way to demonstrate support for a healthy environment, raise awareness about environmental issues, and remind people that we all need to contribute to a sustainable planet.

For years, chemists have been promoting a better world through recyclable plastics, cleaner-burning fuels, phosphate-free detergents, environmental monitoring, and green chemistry initiatives. The American Chemical Society joined the Earth Day celebration on April 22, 2003. There have been annual Chemists Celebrate Earth Day (CCED) events ever since.

Each year, ACS highlights one of four general topics (water, air, plants/soil or recycling) and chooses a specific "theme name" under the topic to focus the CCED celebration.

ACS local sections, Student Member Chapters, and divisions are encouraged to take part in the celebration, particularly the annual community event. Additionally, hands-on activities have been developed for CCED celebrations, and it is hoped that ACS members, chemical educators, and chemistry enthusiasts will use them to illustrate the positive role that chemistry plays in the world.

## International Year of Chemistry - 2011

*Chemistry – our life, our future*



**HUGHES STEM HIGH SCHOOL**

*Science, Technology, Engineering & Mathematics*

## **Science Tutors Needed**

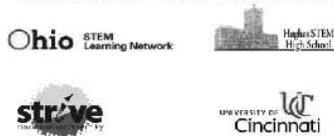
**Volunteer Opportunity:** Science Tutors are needed to support high school students in Cincinnati as part of a unique and innovative STEM education program.

**What is STEM Education:** The acronym stands for courses in the broad fields of Science, Technology, Engineering and Math.

**What is the Problem:** The U.S. is falling behind other countries (*it ranks 60<sup>th</sup> among all nations*) in the fraction of college graduates who receive degrees in the sciences or engineering, and pursue STEM-related careers.

**Hughes STEM High School & Science Tutoring Program:** Hughes STEM High School is one of five Ohio schools selected in a pilot program to focus on STEM education. The Science Tutoring Program is aimed at helping Hughes science teachers and their students to increase science content knowledge and learn more about STEM careers.

**Educational Collaboration:** Hughes STEM High School is an exciting new collaboration between the University of Cincinnati (UC) and Cincinnati Public Schools, with support from Strive (nonprofit education partnership) and the Ohio STEM Learning Network (osln.org). Hughes is located across from the UC campus.



**You can Make a Difference:** Join a unique program that connects volunteer scientists, professionals, engineers, etc., with high school students in order to help them excel in the sciences and feel motivated to pursue college degrees and careers in STEM-related fields.

**Criteria for Volunteer Tutors:**

- College degree in STEM-related subject.
- Career in STEM-related field, either retired or currently employed.
- Willing to commit 1 hour per week to tutor.

**How to Volunteer:** If you are interested in volunteering, inquire at:

- Email: [hughes.science.tutors@gmail.com](mailto:hughes.science.tutors@gmail.com)

**More Information:**

- Website: <http://hughesstem.cps-k12.org/>
- Video: <http://got.im/52000>

**Save 50% off the Nat'l  
ACS Meeting Price**

## **Statistical Analysis of Laboratory Data**

**Stephen Morgan, Stanley Deming, Instructors**

Monday through Wednesday, May 23-25, 2011

**Mason Business Center – The Procter & Gamble Company  
8700 Mason-Montgomery Road, Mason Ohio**

### **Overview**

Master the fundamentals of laboratory data treatment to solve data analysis problems. Through a combination of lectures and problem-solving sessions, this course will teach statistical techniques that can be put to immediate use in the workplace. Participants will learn how to understand the strengths and weaknesses of data, recognize and reduce different types of errors, carry out significance tests, correctly use outlier tests, and more.

### **Who Should Attend?**

Technicians, scientists, engineers, laboratory managers, R&D managers, manufacturing and production managers, and others who need to understand traditional and modern methods of data analysis. This course assumes no previous knowledge of statistics and is aimed at both beginning and experienced workers. Each participant should bring a hand-held calculator to the course.

### **How You'll Benefit from This Course**

Consult with seasoned experts about your data analysis problems.  
Enhance your ability to extract more meaningful data from your data sets.  
Gain confidence in the use of basic statistical methods.  
Improve your decision-making abilities.  
Learn new ways to look at data.  
Reduce the number of measurements required for certain applications.  
Understand statistical terminology and be able to communicate more easily with statisticians.

### **About the Instructors**

**Stanley N. Deming** is Professor Emeritus of Chemistry at the University of Houston, Houston, Texas and teaches Experimental Design for Productivity and Quality in Research & Development and Statistical Analysis of Laboratory Data

**Stephen L. Morgan** is Professor of Chemistry at the University of South Carolina, Columbia, South Carolina and teaches Experimental Design for Productivity and Quality in Research & Development and Statistical Analysis of Laboratory Data.

*(Continued on next page)*

---

(Continued from previous page)

### Course Topics

Measurement	Accuracy and Precision	Means
Standard deviation	Pooling	z Decisions
Confidence intervals	Statistical samples	Outliers
One-way ANOVA	Central limit theorem	p values and power
Statistical testing	Algebra and logic	Hypothesis testing
Formal statistical tests	One-sample t test	Two-sample t test
Paired t test	Fisher's F test	Duncan's multiple range test

Optional topics: Detection limits; Statistical process control; Bioassays

### Date and Site

May 23-25, 2011, this is a 3-day course. Location: Mason Business Center (formerly Health Care Research Center) -- The Procter & Gamble Company, 8700 Mason-Montgomery Road, Mason, Ohio 45040. Check-in at 7:30 a.m. on the first day of the course and the course runs from 8:30 a.m. to 5:00 p.m. each day.

### Registration and Fees

The course fee will be approximately \$900 for ACS members or \$1000 for non-members (the exact fee may vary depending on the number of registrants). This is approximately 50% of the cost of the same course at a National ACS meeting (\$1795). The fee will include course materials, continental breakfast, lunches, and refreshment breaks. Seating will be limited to 30 people. To reserve a seat, please send an e-mail to Rick White ([white.dr.2@pg.com](mailto:white.dr.2@pg.com)) or call (513) 622-1624 and leave your name, affiliation, phone number and ACS membership status. Registration information will be sent to you by email. **Please notify of your intent to register for the course as soon as possible.**

### For further information please contact:

Dr. Rick White  
The Procter & Gamble Company  
Mason Business Center, Box 705  
8700 Mason-Montgomery Road  
Mason, Ohio 45050  
tel. 513-622-1624  
e-mail: [white.dr.2@pg.com](mailto:white.dr.2@pg.com)



### DEAR ACS CINCINNATI SECTION MEMBERS:

Please participate in a survey about the ACS Cincinnati Section website and e-mails concerning CINTACS and meeting announcements. We would like to get your feedback concerning the web page and e-mail communications so that we can improve service and respond to your desires concerning various features, e.g., CINTACS postings, registration, information dissemination, networking, etc. ...

The link is: <https://www.acsvoting.com/survey/8AQ4TTCQFV/>

Thank you, Matt Gardlick

(Continued from page 2)

"Chemistry of Cheese". A wine tasting-cheese pairing segment will be featured as well and should complement very nicely Dr. Tunick's talk. Finally, I would like to remind you that our ACS Earth Day Celebration at Sawyer point is coming up on Saturday April 16<sup>th</sup> 2011. Donna Wiedemann is leading this effort and welcomes anyone interested in helping with it; you can contact her at [wiedeman.dj@pg.com](mailto:wiedeman.dj@pg.com).

*"Whom do I call educated? First, those who manage well the circumstances they encounter day by day. Next, those who are decent and honorable in their intercourse with all men, bearing easily and good naturedly what is offensive in others and being as agreeable and reasonable to their associates as is humanly possible to be... those who hold their pleasures always under control and are not ultimately overcome by their misfortunes... those who are not spoiled by their successes, who do not desert their true selves but hold their ground steadfastly as wise and sober -- minded men." – Socrates-*

I look forward seeing at Northern Kentucky University on April 13<sup>th</sup>.

Victor M. Arredondo





\* GPC/SEC Analysis  
 \* GPC/SEC Polymer Standards  
 \* GPC/SEC Columns \* Waters™ 150C Parts  
 \* WISP 710/712 Parts

**Request your free catalog online**

[www.ampolymer.com](http://www.ampolymer.com)  
 American Polymer Standards Corporation  
 8680 Tyler Blvd., Mentor, OH 44060

Phone: 440-255-2211      Fax: 440-255-8397





## Robertson Microlit Laboratories

*Where speed and accuracy are elemental*

Elemental CHN, S, X, Analysis (*same day service*)  
 Metals by ICP-OES, ICP-MS, A/A  
 FTIR, UV/VIS Spectroscopy  
 Ion Chromatography

Bioavailability  
 Polarimetry  
 DSC, melting point  
 KF Aquametry, Titrimetry

P.O. Box 927 • 29 Samson Ave. • Madison, NJ 07940 • 973.966.6668 • F 973.966.0136  
[www.robertson-microlit.com](http://www.robertson-microlit.com) • email: [results@robertson-microlit.com](mailto:results@robertson-microlit.com)

**Rapid Results • Quality • Accuracy • Competitive Pricing**



**ALPHA-LIBERTY COMPANY, INC.**  
*Balances & Scales & Mass*  
WEST CHESTER, OHIO 45071-0276  
513-777-1525 Fax 513-777-0819  
Susan@AlphaLiberty.com

**WEIGHT CALIBRATION**



NIST Traceability  
ISO/IEC 17025 Accredited Laboratory  
Fast Turn Around



**BALANCE CALIBRATION**

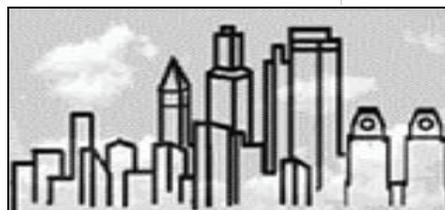


**MARSTON TECHNICAL SERVICE, INC.**  
11576 Goldcoast Drive  
Cincinnati, OH 45249

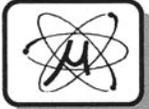
**M. Patrick Marston**  
President  
pat.marston@marstontech.com  
gen.e-mail: marstontech@aol.com

Office: 513-563-8100  
1-800-966-1020  
Fax: 513-554-8532  
www.marstontechnical.com

*Calibration, Certification, Sales & Service For All Your Laboratory Equipment*



**Support CINTACS Advertisers!**



**Micron Analytical Services**

COMPLETE MATERIALS CHARACTERIZATION  
MORPHOLOGY CHEMISTRY STRUCTURE

SEM/EDXA, TEM/SAED, EPA/WDXA, XRD,  
XRF, ESCA, AUGER, FTIR, DSC/TGA  
3815 Lancaster Pike Wilmington DE. 19805  
Voice 302-998-1184, Fax 302-998-1836  
E-Mail micronanalytical@compuserve.com  
Web Page: www.micronanalytical.com

## Chromatography Columns & Consumable Solutions

- **HyperSep & HyperSep RETAIN** (Polymeric)
  - SPE Columns & 96 Well Plates
- **Hypersil GOLD™** - Unlocking solution
  - C18, aQ, C8, Cyano, PFP, Phenyl
  - 1.9µm (U-HPLC), 3µm, 5µm, 8µm, 12µm
- **Hypercarb™** - For challenging separations
  - Polar compounds, isomers, No pH limit, up to 200° C
- **BioBasic™** - Biomolecules
  - C18, C8, C4, ion exchange, & SEC
- **TRACE™ GC Consumable**
  - Columns, Septa, Liners, Ferrule, Gas Filters
- **Hypersil BDS™** - Proven Technology
  - C18, C8, Cyano, Phenyl - 2.4µm, 3µm, 5µm
- **Vials** - National Scientific & SUN SRI
  - New Color ID Patch Vials
- **Reacti-Therm & Reagents** – Pierce
  - Heating/stirring & evaporator module



**Kentucky** - Bob Myers  
[bob.myers@thermofisher.com](mailto:bob.myers@thermofisher.com)  
 Phone: 814-883-5152

**Ohio** – Teri Simon (Rongaus)  
[teri.simon@thermofisher.com](mailto:teri.simon@thermofisher.com)  
 Phone: 267-850-8095

[www.separatedbyexperience.com](http://www.separatedbyexperience.com)

Thermo  
SCIENTIFIC

1

ThermoFisher  
SCIENTIFIC

## ADVANCED TESTING LABORATORY

- ▶ MICROBIOLOGY
- ▶ CHEMISTRY
- ▶ ON-SITE LAB SERVICES
- ▶ PROFESSIONAL SERVICES

6954 Cornell Road | Suite 200  
 Cincinnati, OH 45242  
 513-489-8447  
 513-489-9291 fax  
[ClientRelations@AdvancedTesting.net](mailto:ClientRelations@AdvancedTesting.net)

VISIT  
[www.AdvancedTesting.net](http://www.AdvancedTesting.net)



THE SCIENCE OF TESTING  
 THE ART OF SERVING

**American Chemical Society – Cincinnati Section**

Xavier University  
Department of Chemistry  
3800 Victory Parkway  
Cincinnati, Ohio 45207



**Non-Profit Org.  
U.S. Postage  
Paid  
Cincinnati, Ohio  
Permit #517**