

# CINTACS



Newsletter of the Cincinnati Section of the American Chemical Society

January, 2011  
Vol. 48, No. 4

## Meeting Calendar

Jan 1	International Year of Chemistry begins
Jan. 13	Prof. William Heineman Univ. of Cincinnati 'New Strategies for Chemical Sensors'
Feb. 9	Chemist of the Year (Venue TBD)
Mar. 9	Dr. Leonard Katz, SynBERC Joint with Dayton Section
Apr. 13	Education Awards Night @ Northern Kentucky University
Apr. 16	Earth Day Celebration, Sawyer Point
May	Party Night [TBD]

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## JANUARY MEETING

Thursday, January 13<sup>th</sup>, 2011

**Givaudan Flavors**  
**1199 Edison Dr., Cincinnati, Ohio**

*Sponsored by Givaudan Flavors  
and Iota Sigma Pi*

**Speaker:**

**Prof. William R. Heineman**  
**University of Cincinnati**  
**Distinguished Research Professor and Head**  
**Department of Chemistry**

### Program

5:30 – 7:00 pm	Registration
5:30 – 6:30 pm	Section Outreach Planning Meeting CDR #1
6:00 – 7:00 pm	Social Hour: Cheese with crackers and grapes, veggies with dip, punch, iced tea, soft drinks
7:00 - 8:00 pm	Buffet Dinner: Italian Chop Salad, fresh bread, Tuscan Stuffed Chicken, Charbroiled Flat Iron Steak, Sauteed Vegetable Medley, Roasted Potatoes, Assorted Miniature Pas- tries and coffee. Shavings, Coffee, Tea. Vegetarian entree avail- able upon request when making reservations.
	Fee: \$25.00 (\$15.00 students, emeritus, unemployed and new members)
8:00 pm	Speaker: <b>Prof. William R. Heineman</b> <b>"New Strategies for Chemical Sensors"</b>

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**THE CINTACS NEWSLETTER****Vol. 48, No. 4 January, 2011**Editor.....Kevin Ashley  
Advertising.....Dan Esterline

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**From the Chair**

We are starting **2011, the International Year of Chemistry (IYC)** with our meeting on January 13<sup>th</sup> sponsored by Givaudan with support contributed by Iota Sigma Pi, a woman's chemistry honor society. It will be held at the Givaudan Research Center. Our guest speaker is Dr. William (Bill) Heineman, Distinguished Research Professor and Head, Department of Chemistry, University of Cincinnati. Dr. Heineman is an accomplished chemist in several sub-fields of analytical chemistry. He has published over 300 research papers and patents and has presented over 500 lectures in spectroelectrochemistry, chemical sensors, analytical chemistry of radiopharmaceuticals, polymer modified electrodes, electrochemical immunoassay and microfluidic systems for chemical analysis. His talk entitled, "*New Strategies for Chemical Sensors*", promises to be a very interesting one.

As you may already know, the International Union of Pure and Applied Chemistry (IUPAC) and UNESCO approved resolutions and declared *2011 as the International Year of Chemistry*. IYC 2011 aims to celebrate the achievements of chemistry and its contributions to the well being of human kind. Under a unifying theme: "*Chemistry – our life, our future*", there will be educational, interactive, and entertaining activities worldwide; see page 8 for more details.

The Cincinnati ACS section maintains a very strong community outreach program with identical objectives as the ones stated above thanks to the enthusiasm, involvement of its members, volunteers, partners, and sponsors. As result of these outreach efforts, we are announcing that **for the first time a local student won first place in the national poster contest of NCW!!** This is great news! Thank you Jamie for leading our NCW poster contest! Additional details will be forthcoming in the next issue of CINTACS.

If you are wondering how to be part of one of our teams, I want to invite you to join Gloria Story and Susan Hershberger to the Outreach Activities Planning Meeting at 5:30 PM during our January Meeting as we gear up for an exciting 2011 year of IYC, NCW, Earth Day, Science Cafes, and other activities. This is a great opportunity to plug in, see inside CINTACS & the ACS Cincinnati Section website ([www.acscincinnati.org](http://www.acscincinnati.org)) for more details.

We will be celebrating the Cincinnati Section's "2011 Chemist of the Year" and the "2010 Research Associate of the Year" on February 9<sup>th</sup> at our February Meeting. The awardees will be announced in the next issue of CINTACS. So mark your calendars and come to join us recognize the accomplishments and contributions of fellow chemists and Cincinnati ACS members.

(Continued on Page 6)

*(Continued from page 1)*

## **January Monthly Meeting:**

*“New Strategies in Chemical Sensors”*

**Prof. William R. Heineman**  
**University of Cincinnati**

*Sponsored by Givaudan Flavors*

*With additional contribution from Iota Sigma Pi*

**Thursday, January 13, 2011**  
**@ Givaudan Flavors, 1199 Edison Dr., Cincinnati, Ohio**

**Register Online:** Please register online at [www.acscincinnati.org](http://www.acscincinnati.org) . Alternatively, you may email the webmaster at [webmaster@acscincinnati.org](mailto:webmaster@acscincinnati.org) to register.

Deadline for registration is 12:00 noon on Friday, Jan. 7<sup>th</sup>.

### **Directions to Givaudan Flavors:**

From I-75 North, take the Towne St. exit. Go right at the end of the exit. Turn left at the light onto Paddock Rd. At the first light, turn left onto Edison Dr. and enter the TechSolve Research Park. Givaudan Flavors is on the left, however, continue on Edison past the visitors entrance and park in the employee parking lot which is behind the building. Use the entrance near the south end of the parking lot. The entrance will be marked.

From I-75 South, take the Paddock Rd exit and turn left at the end of the exit onto Paddock Rd. Turn right at the third stoplight onto Edison Dr and continue as above.



**William R. Heineman**  
**Distinguished Research Professor and Head**  
**Department of Chemistry**  
**University of Cincinnati**



William R. Heineman was born in Lubbock, Texas. He received a B.S. degree in Chemistry from Texas Tech University in 1964 and a Ph.D. in Analytical Chemistry from the University of North Carolina at Chapel Hill. He was a Research Chemist at Hercules Research Center for two years before becoming a Postdoctoral Research Associate at Case Western Reserve University and then at The Ohio State University. He joined the faculty at the University of Cincinnati in 1972 where he is now Distinguished Research Professor and Head of the Department of Chemistry.

Heineman's research interests include spectroelectrochemistry, chemical sensors and biosensors, electrochemical immunoassay, and microfluidic systems for chemical analysis. He has published over 400 research papers and patents and several books and has presented over 300 lectures at conferences, universities, and government/industrial laboratories.

During his career in academics, Heineman has received the following awards: Sigma Xi Research Recognition Award, Cincinnati Chemist of the Year, Distinguished Scientist Award from the Technical Societies Council of the Engineers and Scientists of Cincinnati, Japan Society for the Promotion of Science Fellowship, Japanese Government Research Award for Foreign Scientists, George Rieveschl, Jr. Award for Distinguished Scientific Research, Humboldt Preis from Germany, McMicken Dean's Award for Distinguished Scholarship, Hans H. Jaffe Chemistry Award, Charles N. Reilley Award in Electroanalytical Chemistry from the Society for Electroanalytical Chemistry, Chemical Sensors Award from the International Meeting on Chemical Sensors, Award for Excellence in Teaching from the Division of Analytical Chemistry of the American Chemical Society, Torbern Bergman Medal 1999 from the Analytical Section of the Swedish Chemical Society, the EAS Award for Outstanding Achievement in the Fields of Analytical Chemistry from the Eastern Analytical Symposium in 2003, Award for Excellence in Mentoring of Doctoral Students from the University of Cincinnati in 2004, and the Outstanding Achievement in Sensors Award from the Electrochemical Society in 2006. He is an elected Fellow of the American Association for the Advancement of Science. He was chosen for the inaugural class of Fellows of the American Chemical Society in 2009.

Heineman has served on numerous advisory boards for journals including *Analytical Chemistry*, *Biosensors and Bioelectronics*, and *Electroanalysis*. He was a co-founder and the first President of the Society for Electroanalytical Chemistry and was a member of the Board of Directors. Heineman has been active in the American Chemical Society for many years. In the Cincinnati Section he served as *CINTACS* Editor, Secretary, Chair, Trustee, and Councilor. In the Division of Analytical Chemistry he served as Treasurer, Councilor, and Chair.

**Prof. William R. Heineman**  
**University of Cincinnati**  
**Department of Chemistry**

**Abstract: "New Strategies for  
Chemical Sensors"**

Chemical sensors and biosensors are able to rapidly determine chemicals and biological agents. Examples of widely used sensors are the pH electrode, the glucose biosensor, and the Clark oxygen electrode. Although many sensors are commercially available, many more are needed. However, developing new sensors with the selectivity needed for measurements in real world samples is very difficult. Spectroelectrochemistry is a strategy for developing highly selective sensors without resorting to fragile biosensors. These novel sensors combine electrochemistry, spectroscopy, and selective partitioning into a film. The film is chosen to preconcentrate analyte from the sample solution into the measurement zone and to reject some sample components. An additional level of selectivity is provided by subjecting the preconcentrated analyte to electrolysis, which electrochemically modulates an optical signal. The modulated signal can then be distinguished from the constant signals of other components in the sample and used for quantification. Examples of sensors developed for the detection of inorganic and organic compounds in complex samples such as nuclear waste and biological fluids will be described.



**Request for Science Fair  
Judges @ University of Cincinnati  
Science Fair (March 12)**

(Submitted by David Bom, Givaudan)

We would like to inform everyone of the opportunity to serve as a science fair judge at the 7<sup>th</sup> Annual University of Cincinnati Science & Engineering Expo (SEE) on March 12<sup>th</sup>, 2011. There will be a training session for the judges in the morning. Breakfast, lunch and complimentary parking will be provided. They ask that each judge have a bachelors degree (or higher) in a science or engineering field. They are also interested in getting local teachers involved in the judging.

For further information please contact Marcie Turner or Emily Stimpert at 513-556-4267.  
([marcie.turner@uc.edu](mailto:marcie.turner@uc.edu) or  
[emily.stimpert@uc.edu](mailto:emily.stimpert@uc.edu))

**Passing of Dr. Donald Kuemmel**

Another local chemist passed away recently. Dr. Donald Kuemmel, a longtime analytical chemist at P&G (MVIC formerly MVL), has passed away. He belonged to American Oil Chemists Society.

-George Rizzi

**VISIT THE ACS CINCINNATI  
SECTION ONLINE:**

**[www.acscincinnati.org](http://www.acscincinnati.org)**

(Continued from page 2)

About 30 Cincinnati ACS members attended a seminar presented by Nobel Laureate Prof. Robert H. Grubbs of the California Institute of Technology at the Procter & Gamble Miami Valley Innovation Center on November 2<sup>nd</sup>. His talk, "*Synthesis of Polymers with Controlled Structures using Olefin Metathesis Catalysts*", described research efforts in the design and controlled synthesis of block copolymers and cyclic polymers, and polymers from sustainable/renewable materials using catalytic olefin metathesis chemistry. A Cincinnati ACS sponsored luncheon reception followed the seminar, where in an informal and relaxed atmosphere, everyone had the opportunity to chat with Dr. Grubbs as he joined different groups of people throughout the event. The food was fantastic and the room was abuzz with conversations from all 45 people who joined us; I was particularly pleased to see a number of students took advantage of this opportunity. I want to thank the Procter & Gamble Company and Ramona Quintanilla, the sponsor and organizer of the seminar, for graciously opening this event to non-P&G employees. A special thank you goes to Beth Reno, who not only contacted me with the idea of opening the seminar to the members of the section, but also took care of the luncheon and visitor logistics.

*"Just do the best with what you have and soon you will be doing it better"* – Gil Hodges

Feliz Año Nuevo! I hope to see you and talk to you at the January meeting.

-Victor Arredondo



## Section Outreach Activities Planning Meeting – Thursday Jan. 13<sup>th</sup>, 5:30 PM @ Givaudan Flavors

Before the January 13<sup>th</sup> section meeting begins, outreach volunteers (National Chemistry Week (NCW), Earth Day, etc.) will be gathering at 5:30 PM in the Givaudan Flavors CDR #1 conference room to brainstorm for the many 2011 Cincinnati Section outreach activities. If you have ever been involved in NCW or Earth Day events or would like to become involved in fun outreach activities, please come to the meeting. The group is starting now because we are adding quarterly activities to celebrate the International Year of Chemistry (IYC) at the Cincinnati Museum Center to our schedule. These outreach opportunities are a great way to get involved in your section and have fun presenting chemistry and science to the public.

Besides presenters we would welcome organizers, promoters, photographers, and a report writer. If you feel you can spare a little time to coordinate activities by computer, or advertise on the web, we can use you and welcome your participation. Find out more by attending the January 12<sup>th</sup> 5:30 meeting in the Givaudan Flavors CDR #1 conference room, conveniently scheduled right before our regularly-scheduled section meeting. Questions? Contact Gloria Story ([story.gm@pg.com](mailto:story.gm@pg.com)) or Susan Hershberger ([hershbs@muohio.edu](mailto:hershbs@muohio.edu)).

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## SPONSORS SOUGHT FOR 8 SECTION MEETINGS IN THE 2010-2011 PROGRAM YEAR

Again 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 six 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  
Cincinnati Section, ACS]

## LAST NOTICE: Nominations for Cincinnati Chemist of the Year and Research Associate of the Year

Recognize your colleagues and co-workers for their outstanding contributions to our field. Please submit a nomination for Cincinnati Chemist of the Year or Research Associate of the Year. The nomination deadline is **December 31**.

The Chemist of the Year should hold a terminal degree and must be a member of the Cincinnati section of the ACS. Nomination requires two letters of recommendation and the nominee's CV.

The Research Associate of the Year must be or have been a practitioner within the chemical discipline. ACS membership is not a requirement. Nomination requires a letter of recommendation; CV and additional documentation are optional, but appreciated.

Nomination materials should be sent to:

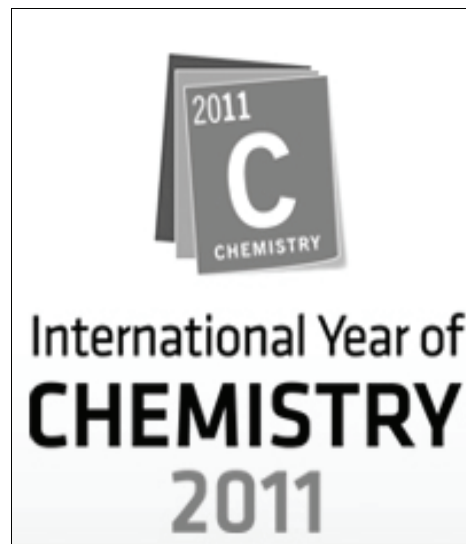
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## SECOND NOTICE: 2011 is the International Year of Chemistry

The International Year of Chemistry 2011 (IYC 2011) is a worldwide celebration of the achievements of chemistry and its contributions to the well-being of humankind. Under the unifying theme "*Chemistry—our life, our future,*" IYC 2011 will offer a range of interactive, entertaining, and educational activities for all ages. The Year of Chemistry is intended to reach across the globe, with opportunities for public participation at the local, regional, and national level.



The goals of IYC2011 are to increase the public appreciation of chemistry in meeting world needs, to encourage interest in chemistry among young people, and to generate enthusiasm for the creative future of chemistry. The year 2011 will coincide with the 100th anniversary of the Nobel Prize awarded to Madame Marie Curie—an opportunity to celebrate the contributions of women to science. The year will also be the 100th anniversary of the founding of the International Association of Chemical Societies, providing a chance to highlight the benefits of international scientific collaboration.

IYC 2011 events will emphasize that chemistry is a creative science essential for sustainability and improvements to our way of life. Activities, such as lectures, exhibits, and hands-on experiments, will explore how chemical research is critical for solving our most vexing global problems involving food, water, health, energy, transportation, and more.

In addition, the Year of Chemistry will help enhance international cooperation by serving as a focal point or information source for activities by national chemical societies, educational institutions, industry, governmental, and non-governmental organizations.

For more information about the goals, activities, administration, and timeline of IYC 2011, please visit [www.chemistry2011.org](http://www.chemistry2011.org).

The IYC 2011 is an initiative of IUPAC, the International Union of Pure and Applied Chemistry, and of UNESCO, the United Nations Educational, Scientific, and Cultural Organization. It involves chemical societies, academies, and institutions worldwide, and relies on individual initiatives to organize local and regional activities.



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