

CINTACS



Newsletter of the Cincinnati Section of the American Chemical Society

February, 2013
Vol. 50 No. 5

Section Calendar

Feb 13	Chemist of the Year, Dr. Anna Gudmundsdottir, University of Cincinnati, MBC
Feb 15	Deadline for 2012 ChemLuminary Nominations
Mar 13	Joint meeting with Dayton, Marriott North
Apr 7-11	National ACS meeting, New Orleans
Apr 20	Chemists Celebrate Earth Day
Apr 24	Dr. Ariel Fenster, & Teacher / Student Awards @NKU
May 10	Party Night

In this issue

February mtg. announcement	1
From the Chair	2
January Speaker: Dr. Anna Gudmundsdottir, University of Cincinnati	4
February Meeting Abstract	5
YCC announcement	5
Project SEED announcement	6
NanoDays Announcement	6
Coins for Cleaner Water Project	7
Ask a Chemist Outreach Program	8
STEM conference announcement	9
CERMACS announcement	10
CINTACS Advertisers	11-16

February Monthly Meeting Wednesday, February 13, 2013 Mason Business Center (MBC), P&G

Sponsored by

Advanced Testing Laboratory

Featured Speaker

**Professor Anna Gudmundsdottir,
University of Cincinnati**

Program:

5:30 – 7:00	Registration, MBC Reception Area
5:30 – 7:00	Social Hour, Atrium, MBC 2 nd Floor
7:00 – 8:00	Dinner, MBC Cafeteria, 1 st Floor MBC (\$20.00, or \$10.00 for students, emeritus, unemployed or K-12 Teacher members). Buffet Menu: Asian rubbed Flank Steak, Roasted Rosemary Red Bliss Potatoes, Pecan Glazed Carrots, Sautéed Garlic and Herb Broccoli, Vegetarian Pasta Al Fresco, and fresh assorted rolls. Dessert: Assorted Mini Cheesecakes and Chocolate Covered Strawberries, Coffee, Tea.
7:45 – 8:00	Presentation of Researcher of the Year Award Plaque to Mr. Michael Kalb, P&G; Presentation of Chemist of the Year Award Plaque to Dr. Anna Gudmundsdottir, UC Dept. Chemistry.
8:00 – 9:00	Featured Speaker, Prof. Anna Gudmundsdottir: “1,2-Biradicals and their Applications”

(Continued on page 3)

THE CINTACS NEWSLETTER**Vol. 50, No. 5 February, 2013**Editor.....Adam Bange
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 approximately February 25 for the March 2013 issue. Electronic submission is strongly preferred. All materials should be sent to:

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From The Chair:

Cincinnati ACS Members and Friends,

February can feel like an incubator, when you think about all of the activities and happenings that are in the planning, 'behind-the-scenes' stage in February – National meeting in New Orleans, Chemists Celebrate Earth Day, Nano days, Science and Engineering Expo, Section Elections – to name a few events coming in March/April, so not to be glanced over, we made sure February has its own chemistry fun (note: we even wedged the monthly meeting between Mardis Gras and Valentine's Day!).

This month we will honor two of our peers for their scientific research and contributions to the field of chemistry. Dr. Anna Gudmundsdottir, UC, has been selected as the 2012/13 Cincinnati Section "Chemist of the Year". She is the 63rd recipient of this award. Dr. Gudmundsdottir is being recognized for her excellence in teaching and research over the past 15 years. Dr. Gudmundsdottir is a physical organic chemist whose research has focused on the formation and stabilization of triplet nitrenes, and developing novel photoremovable protecting groups (PRPGs). Mr. Michael Karb, P&G, has been selected as the 2012/13 Cincinnati Research Associate of the Year for his work in LC/MS and automated systems in the analysis of biological samples, particularly trace analysis. Congratulations to both!

Come out and have some fun with the Younger Chemists Committee! The YCC will be gathering at Molly Malone's on Feb 19, 2013 for Trivia Night. Contact Vanessa Barnes for more info. While on the topic of "younger", take a minute to bookmark our website in your Favorites folder, and consider "liking" the Cincinnati ACS section on Facebook. Rick Mullins, our immediate past Chair, initiated our FB page and Twitter accounts last year, and here is a very good reason to connect with us electronically:

Due to speaker illness the day of our January 16 monthly meeting, we came very close to canceling our January meeting. It takes approximately 24 hours to complete the bulk emailing process for our Section, thus, it would not have been possible to contact all members of a cancellation before the meeting time. However, an instant message can go out via Facebook, and a notice can be quickly posted to our website. Hopefully, cancelling a meeting does not happen – but there might be other times where fast dissemination of information would be very helpful J

Dr. Ray Price, a co-author /co-researcher of Dr. Abbie Griffin, hap-

(Continued on page 3)

Directions to Meeting Venue:

The Mason Business Center (MBC) is located on Mason-Montgomery Rd, in Mason, and is now considered P&G's most populated technical center. The street address is 8700 Mason-Montgomery Rd. S • Mason, Ohio • 45040 • Phone: (513) 622-1000.

Visitor parking is conveniently located in front of the main reception area (use the flagpole as a guidepost). Non-P&G employees must check in with the Receptionist, and sign in as a visitor to the site. Access is provided via escalator and elevator to the dining area from the Atrium and Registration area.

FROM South

- Take Interstate 71 North
- After the I-275 interchange, move to the right 2 lanes for Exit #19 Mason-Montgomery/ Fields Ertel exit.
- Move to the left 2 lanes of the exit ramp, and turn left onto Mason-Montgomery Rd.
- The site is located 2 miles ahead on the right, just past the Irwin-Simpson intersection. Turn right at the light into the P&G MBC facility. Drive straight up the entrance road to the main reception area. Parking will be on your left.

FROM East/West:

- Take Interstate 275 to I-71 North.
- Stay in the right 2 lanes for Exit #19 Mason-Montgomery/ Fields Ertel exit.
- Move to the left 2 lanes of the exit ramp, and turn left onto Mason-Montgomery Rd.
- The site is located 2 miles ahead on the right, just past the Irwin-Simpson intersection. Turn right at the light into the P&G MBC facility. Drive straight up the entrance road to the main reception area. Parking will be on your left.

FROM North (Interstate 71 South):

- Take exit #19 Mason-Montgomery/ Fields Ertel exit.
- Turn right onto Mason-Montgomery Rd.
- The site is located 2 miles ahead on the right, just past the Irwin-Simpson intersection (Red Robin). Turn right at the light into the P&G MBC facility. Drive straight up the entrance road to the main re-

ception area. Parking will be on your left.

FROM North / Northwest (Interstate 75 South):

Take Interstate 75 South to the Tylersville Rd. exit #22

- Turn left onto Tylersville Rd., and proceed ~3 miles to Mason-Montgomery Rd.
- Turn right onto Mason-Montgomery Rd.
- Continue ~2 miles and turn left into the P&G MBC facility. You may enter the north gate (across from Kroger) and turn right on the loop road, then left at the south gate stop sign to arrive at the main reception. Or, you may enter at the south gate (across from BD Mongolian Grill) Drive straight up the entrance road to the main reception area. Parking will be on your left.

From The chair (continued from page 2)

pened to be in Cincinnati for another purpose, and stepped in to present on the topic of serial innovators for January's meeting (and for that I am deeply grateful!). It was interesting to learn the personality, motivation and perspectives identified for scientists with proven track records developing breakthrough innovations. Dr. Emel Yakali was presented with the auto-graphed book, *Serial Innovators*, for having a January 17 birthday!

I would like to acknowledge Advanced Testing Laboratories, for generously sponsoring our February meeting, and I would like to particularly thank Neil Jordan, General Manager, P&G, for serving as our P&G site sponsor, allowing our Section to hold our meeting at the MBC location. Having support from local industry is vital to maintaining a thriving, collaborative local ACS section. Please let our sponsors know how much their actions are appreciated! Finally, for fun, go to our Cincinnati ACS Facebook page and tell us how you are having fun with chemistry in February! Fabulous prizes for 5 members!!

Sincerely,
Beth



Cincinnati Chemist of the Year

The Cincinnati Section proudly recognizes Professor Anna Gudmundsdottir from the University of Cincinnati as the Cincinnati Chemist of the Year for 2012/13. A native of Iceland, Anna earned a BS in Chemistry at the University of Iceland and a MS and Ph. D. at the University of British Columbia under the supervision of Professor John R. Scheffer, studying asymmetric induction in the solid state. Afterwards, she was a visiting scientist in the laboratory of Professor Peter Wagner at the Michigan State University and investigated radical reactivity. She was a NATO postdoctoral fellow with Professor Matt Platz at The Ohio State University, where she learned to do transient spectroscopy on reactive intermediates. Anna Gudmundsdottir joined the

faculty of the Chemistry of University in 1998 and rose to the rank of Professor in 2009, faster than average, due to her record of excellence in teaching and research. Anna is widely regarded as an exceptional teacher by the UC Chemistry Department, faculty and students, alike. She routinely receives high student evaluation results. In addition to managing her graduate research group, she has been very active in undergraduate and high school mentoring programs. She has mentored over 60 undergraduate researchers during her time at UC, typically resulting in co-authored publications or presentations on their research. At the high school level, she has mentored 19 students, including 5 students via Project Seed.

In the research arena, Professor Anna Gudmundsdottir is a physical organic chemist who conducts thorough, comprehensive studies that include synthesis, product studies, transient spectroscopy and theoretical calculations on systems of interest. A major focus has been on the formation and stabilization of triplet nitrenes for the possible production of organic magnets. Those knowledgeable in physical organic chemistry, consider Professor Gudmundsdottir to be a leader in the field of direct production of triplet nitrenes. Bringing to bear a wide array of tools, she has greatly advanced our understanding in this field as evidenced by over 60 publications in high quality journals along with five book chapters. In another area of research, she has developed and continues to study new photoremovable protecting groups. In service to the larger scientific community, Anna is a vice-chair of a Gordon Research Conference and was co-chair of a major international conference. She served as a guest editor of a special issue of the Journal of Physical Organic Chemistry and is an Associate Editor of the Journal of Photochemistry and Photobiology.

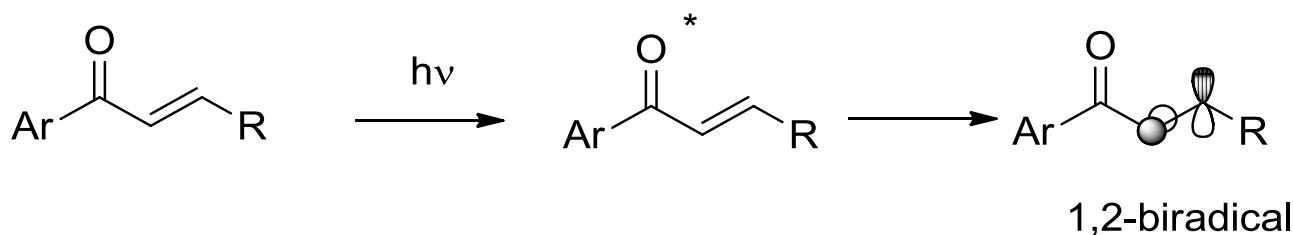
Overall, Anna Gudmundsdottir is an outstanding academic chemist who excels in research, teaching and service and clearly exemplifies the hallmarks of Cincinnati Chemist of the Year.

1,2-Biradicals and their Applications

Anna D. Gudmundsdottir

University of Cincinnati
Cincinnati, OH, 45221

Abstract



In the past decade a series of useful molecular systems known as phototriggers, photoswitches, or photoremovable protecting groups (PRPGs) have been used in a wide variety of applications, including the release of fragrances from household goods, as an aid in multi-step syntheses, and in drug delivery. PRPGs also make it possible for biochemists to release bioactive compounds in living tissue with both high temporal and spatial accuracy, thus making it possible to study physiological events such as enzyme activity, ion channel permeability, and muscle contraction by ATP hydrolysis. The choice of PRPGs is critical, and depends on the system under investigation, and must be tailored to the application. Thus, there is a need for new PRPGs that can satisfy the diverse requirements of numerous applications

We have detected and characterized triplet 1,2-biradicals directly in solution by laser flash photolysis of vinylketone derivatives which have a built-in triplet sensitizer. By tethering a triplet sensitizer to the alkene it is possible to bypass the singlet reactivity of the alkene chromophore and form triplet 1,2-biradicals. We used the 1,2-biradicals to initiate cis-trans isomerization to release alcohols from novel PRPGs.

Furthermore, we have used triplet sensitizers to selectively form triplet alkyl- and vinylnitrene radicals. The alkylnitrenes are highly unreactive because they do not react with the solvent but rather decay by dimerization. Thus, they have potential as building blocks for high spin assemblies.

The Younger Chemists Committee would like to buy you a drink! Trivia Extravaganza – come on people; let's own this trivia night! Come join us at Molly Malone's in Pleasant Ridge on February 19th at 6:30pm. Younger and older chemists are both welcome to attend, in spite of the name suggesting otherwise. We don't discriminate—and we'll buy your first round! Look forward to seeing you there. Please RSVP to vfrostbarnes@markes.com if you plan to attend (got to give the pub a heads up on numbers!). Cheers,
Vanessa Frost Barnes
YCC Chair

NanoDays 2013 Announcement

Our section will join other local educators, industries, and organizations at the Cincinnati Museum Center on April 6, 2013 from 10 AM to 5 PM to help celebrate the study of small things in a big way at Nano Days 2013! Nano Days is a national celebration of nanoscale science and engineering, an initiative of the NISE (Nanoscale Informal Science Education) Network and the National Science Foundation.

Guests will become a scientist at the all-day celebration of nanoscience, the study of how atoms and molecules behave on a super tiny scale in everything from sunscreen to computer processors to gecko feet. There will be hands-on experiments in the LITE Lab of the Museum of Natural History & Science, as well as the CMC's rotunda area where CINTACS members and local nanoscience experts will be ready to share. There will also be an opportunity to help build one of the largest scale models of a carbon nanotube ever constructed in the Rotunda – out of balloons!

Want to volunteer? Contact Beth Reno (reno.ea@pg.com) or Gloria Story (story.gm@pg.com)

ACS Project SEED Program

Summer Research Internship Program for Economically Disadvantaged High School Students

The ACS Project SEED summer research program opens new doors for economically disadvantaged students to experience what it's like to be a chemist. Students entering their junior or senior year in high school are given a rare chance to work alongside scientist-mentors on research projects in industrial, academic, and federal laboratories, discovering new career paths as they approach critical turning points in their lives. More about Project SEED

Summer Programs

Summer I

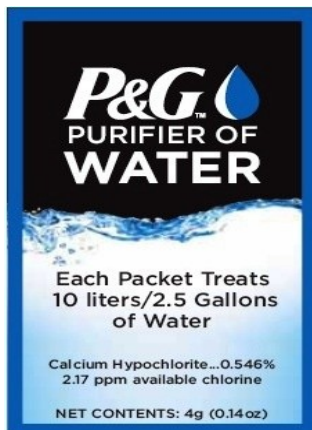
For first-time participants, students conduct research in chemistry or a related field supervised by a scientist mentor and receive a fellowship award of \$2,500.

Summer II

Summer I students get a second opportunity to continue working on their Summer I project or beginning a new one. Students receive a \$3,000 fellowship award and may be eligible for a travel grant to present research at an ACS or other scientific meeting.

Contact Hairong Guan, Hairong.guan@uc.edu for further info on the local section SEED activities

Coins for Cleaner Water Project



ACS has continued to partner with Procter & Gamble to launch *Coins for Cleaner Water*. Every day, several billion people around the world live without clean water. More than 4,000 children die every day from diseases caused by drinking unsafe water. ACS will raise funds to purchase water purification packets that can be used in areas of the world that do not have readily available clean and potable water.

P&G's water purification packets are being distributed through Children's Safe Drinking Water (CSDW), a foundation the company created in 2004. Since CSDW's creation, P&G has distributed over 500 million packets to 63 countries and has partnered with several global relief organizations including AmeriCares, CARE, IFRC, PSI, Save the Children and World Vision. Through these efforts, over 5 billion liters of clean water have been made available to people around the globe. The program has saved more than 22,000 lives and prevented over 165 million days of disease. Each packet costs only 3.5 cents and safely treats 2.5 gallons of water. ACS is proud to partner with P&G's Children's Safe Drinking Water program. Our goal is to raise enough funds to be able to provide over 2 million gallons of clean water.

Beginning this fall during National Chemistry Week, ACS local sections will work in their communities throughout the country to raise money and awareness of this important initiative. All donations are tax deductible, and receipts will be issued to donors who pay by check or money order. Dr. Greg Allgood demonstrated how quickly the contents of the sachet are able to 'clean' water at our April 2012 meeting. A limited number of sachets are available from National ACS so similar demos can be provided to other groups. Our Cincinnati section will collect "coins" at our local meetings and events – look for the "Purifier of Water" sign!

New "Ask and ACS Chemist" Outreach Program from the ACS!

The ACS is launching a new program called "Ask an ACS Chemist". Our Publications Division technical support for ACS journals receives roughly 10-15 science-related inquiries each week, typically from high school and undergraduate students. The questions are usually along the lines of:

How does the microscopic method determine particle size?


Which enzyme is inhibited by zinc in Alzheimer's?

What is chemical equilibrium?

Currently when we receive these questions, one of our staff members will direct them to a host of journals where the student may or may not find an answer. We would like to offer the students a more personal touch by funneling those questions to a collective of scientific professionals, such as yourself, and allowing you to share your expertise on the subject matter.

We anticipate this initiative will require very little commitment on your end; you may contribute as often as you choose. The format will be a forum of threaded posts in an ACS Network group to which you would be invited to join. You would then begin receiving the notifications as new questions are posted and can log in to view and/or comment where you feel comfortable.

If you are interested in participating in this outreach program, please send an email to Mikal Ankrah at outreach@acs.org and you will be invited to join the Network group.




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When and Where

- Monday, May 6, 2013 at Tangeman University Center, on the campus of the University of Cincinnati

Who Should Attend

- K-12 STEM (Science, Technology, Engineering and Mathematics) teachers and administrators from public and private schools, who are seeking innovative instructional strategies
- Leaders in higher education, business and industry that support STEM education and STEM-related career opportunities

Conference Features

- From 8:00 a.m. – 3:15 p.m., includes a welcome speaker, four concurrent break-out sessions led by teachers, administrators and business and industry leaders, and a working lunch
- Presentations selected from a variety of proposals for K-12 teachers featuring Interactive Workshops, Panel Discussions and STEM Related Opportunities
- Presentations geared specifically for administrators and leaders in business and industry regarding Common Core and New Science Learning Standards, 21st Century Learning Skills, College and Career Readiness and other STEM Initiatives
- Up to 5 professional contact hours offered

Registration Information

Single Fee: \$25.00 which includes: lunch, on-campus garage parking, up to 5 contact hours, and a flash drive loaded with all the materials supplied by each of the presenters.

Conference and Registration Website (*registration begins January 24*)

http://ceas.uc.edu/special_programs/ceems/CEEMS_Events/Events_STEM.html

Contacts

For Request for Proposal Information:

Julie Steimle | 556-6454 | steimlje@ucmail.uc.edu and Debbie Liberi | 556-6419 | liberid@ucmail.uc.edu

For Registration and Conference Logistics:

Florine Postell | 558-1810 | event.services@uc.edu

2013 Central Region Meeting

The 44th Central Region Meeting (CERM2013) of the American Chemical Society will be held on May 15-17, 2013 on the campus of Central Michigan University in Mt. Pleasant, Michigan. The theme of the meeting is “Building Blocks for a Sustainable World.”

Papers are requested for symposia covering chemical education, analytical, biological, computational, environmental, inorganic, organic, medicinal, physical, and polymer chemistry, and more.

Abstract submission is now open. Abstracts may be submitted online at <http://abstracts.acs.org>. The deadline for abstract submission is March 20, 2013.

Technical program highlights will include poster sessions, undergraduate research symposia, a beer and wine making symposium with a related visit to a brewery, a silicon science symposium to celebrate the 150th anniversary of the discovery of organosilicon compounds and the 70th anniversary of Dow Corning Corporation, a sustainability symposium, materials-related (including nanotechnology) symposia, symposia about chemistry and global health, re-examining water fluoridation, also water-biogeochemistry, an exhibition showcasing the latest products and materials from a range of vendors, and technical and career workshops.

Special events will include chemistry related art and history exhibits (“History of The Dow Chemical Company Plant in Mt. Pleasant - 1903-1930” and “Images of The Dow Chemical Company from the Brush of Arthur Knighton-Hammond”, and “History of the Midland ACS Section, 1919-2013”) with an art reception, and plenary lectures highlighting the theme of sustainability with guest speakers including Dr. Martine Vermeulen, Dow Corning Global Manager of Product Safety and Regulatory Compliance (retired), and Dr. Kishor Wasan, Professor of Pharmaceutical Sciences at the University of British Columbia.

The Awards Banquet on Thursday night will feature presentation of the ACS Division of Chemical Education Regional Award for Excellence in High School Chemistry Teaching, the E. Ann Nalley Regional Award for Volunteer Service to ACS, and the Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences. The featured speaker will be Dr. Mary Kirchhoff, ACS Director of Education.

Advance registration for the meeting will end on April 19, 2013. Regular registration will continue through May 17, 2013. Please visit the CERM 2013 website for registration and contact information, useful Web links, and up-to-date details on events as they become available. <http://2013cerm.sites.acs.org/>

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We continually seek 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.

Please contact Ed Hunter at:
edhunter@fuse.net



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- Mass Spectroscopy of Proteins in the Pharmaceutical Sciences
- Nanoparticles in Separation Science
- Supercritical Fluid Chromatography

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