

CINTACS



Newsletter of the Cincinnati Section of the American Chemical Society

January, 2010
Vol. 47, No. 4

Meeting Calendar

Jan. 13	Gary Reineccius Univ. of Minnesota 'Flavonomics' @Givaudan
Feb. 10	Chemist & Research Associate of the Year @Elements Events Centre Sharonville
Mar. 10	Daniel Nocera, MIT 'Personalized Energy for 1 (x 6 Billion)' Joint with Dayton Section @Beckett Ridge Country Club, West Chester
Apr. 14	A. Jorgenson, U. of Toledo 'Science of Climate Change' Education Awards Night @ NKU
May	Party Night [TBA] Wine Tasting

In this issue

January meeting announcement	1
From the Chair	2
January meeting — Directions	3
About the speaker	4
Abstract: "Flavonomics"	5
Chemical Educators Roundtable	6
Call for section meeting sponsors	7
NCW interest group meeting	7
Cincinnati ACS Educational Grants	8-9
CERMACS 2010 in Dayton	10
Chemists & Earth Day	11
Green Chemistry Awards	11
ACS Call to Action	12

JANUARY MEETING

Wednesday, January 13th, 2010

Givaudan Flavors

1199 Edison Dr., Cincinnati, Ohio

Sponsored by Givaudan Flavors

With additional contribution from Iota Sigma Pi

Speaker: Dr. Gary Reineccius

Department of Food Science and Nutrition

University of Minnesota

Program:

5:30 – 7:00 pm Registration

5:30 – 6:30 pm National Chemistry Week
Committee 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: Carved beef, stuffed chicken
breast, potatoes and vegetables, rolls and assorted cheese-
cakes

[\$25.00 (\$15.00 students, emeritus, unemployed
and new members)]

8:00 pm Speaker: Prof. Gary Reineccius
*"Flavonomics—A 'New' Tool in
Flavor Research"*

THE CINTACS NEWSLETTER**Vol. 47, No. 4 January, 2010**

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 approximately January 12 for the February 2010 issue. Electronic submission is strongly preferred. All materials should be sent to:

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From the Chair

As you make plans for the new year, make some time for Cincinnati Section activities. The friend you meet at a meeting or project may be just the person that inspires you to look at your current project in a new way.

Our January 15th meeting is sponsored by Givaudan and will be held at the Givaudan Research Center. Additional support for this meeting is also contributed by Iota Sigma Pi. The speaker will be Gary Reineccius of the University of Minnesota. Dr. Reineccius is known for his flavor research, his flavor textbooks and for entertaining outreach talks on flavors and the chemistry of flavor and gourmet foods. His talk is entitled "Flavonomics." Thanks to Phil Christenson for making all the arrangements at Givaudan, and Givaudan for making this meeting possible.

Prior to the January meeting, the National Chemistry Week group is meeting at 5:30 PM in the Givaudan conference room to brainstorm ways to establish a committee to oversee the many Cincinnati Section Activities. If you are currently involved in National Chemistry Week or have been in the past or would like to be involved in the future please come to the meeting. The group is meeting early for 2010, while the activities from 2009 are still relatively fresh. In particular the group anticipates seeking ways to divide up the work. National Chemistry Week is a great way to get involved and have fun presenting chemistry to the public. Besides presenters we would welcome organizers, promoters 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 meeting in the conference room at Givaudan at 5:30 PM.

The February meeting on February 10th, will be celebrating the Cincinnati Section's "2010 Chemist of the Year" and the "2010 Research Associate of the Year." The awardees will be announced in January CINTACS. The meeting will be held at the Elements Event Center in Sharonville.

The March meeting which is joint with the Dayton Section on March 10th, will feature Daniel Nocera of the Massachusetts Institute of Technology, the Henry Dreyfus Professor of Energy and Professor of Chemistry. In 2009, Dr. Nocera was featured in Time magazine and National Geographic magazine, he also is noted for exciting science and great outreach talks and courses. The March meeting will be held at Beckett Ridge Country Club, West Chester which is just off Interstate 75, just north of Interstate 275, and convenient to both the Cincinnati and Dayton Sections.

I hope to see you at Givaudan on January 13th.

Sincerely,

Susan Hershberger

**January Monthly Meeting:
“Flavonomics—A ‘New’ Tool in Flavor Research”
Prof. Gary Reinnecius**

Sponsored by Givaudan Flavors

With additional contribution from Iota Sigma Pi

**Wednesday, January 13, 2010
@ Givaudan Flavors
1199 Edison Dr., Cincinnati, Ohio**

Please Register Online at www.acscincinnati.org. Alternatively, you may email the webmaster at webmaster@acscincinnati.org to register, or call Susan Hershberger at 513.727.3438.

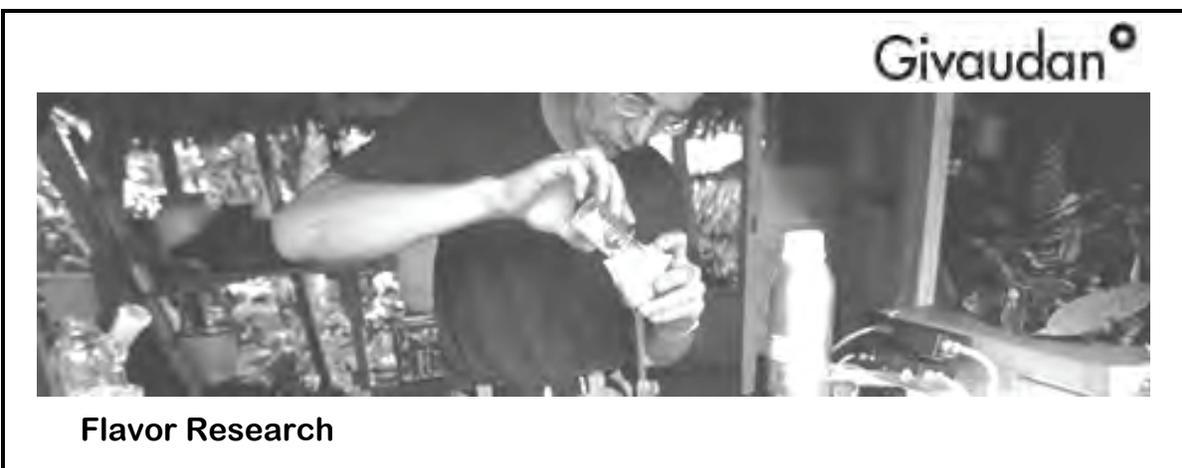
The deadline for reservations is 12:00 noon on Friday, Jan.8.

Directions to Givaudan:

From I-75 North, take the Towne Street 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 Drive 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 Road. Turn right at the third stoplight onto Edison Drive and continue as above.





About the Speaker: Professor Gary Reineccius

Gary Reineccius, Ph.D., is a Professor and Department Head (since May 1, 2008) in the Department of Food Science and Nutrition at the University of Minnesota. He has been actively involved in flavor research for more than 38 years. During this time he has published over 210 research articles. Dr. Reineccius has spent sabbatical leaves with Fritzsche Dodge and Olcott (New York, flavor creation and production), Nestle (Switzerland, reaction flavors) and Robertet S.A. (France, taste modifiers and manufacturing).

Dr. Reineccius teaches courses in Food Processing, Food Chemistry, Food Analysis, and Flavor Chemistry and Technology. He has written a College textbook on food flavors with Henry Heath (the second edition of this book became available in 2006). This was the first textbook in the flavor area which combined both flavor chemistry and technology. Dr. Risch and he edited and were major contributors to two books on flavor encapsulation. He is the sole author of the Source Book of Flavors and coeditor of Heteroatomic Flavor Compounds in Foods.

Dr. Reineccius' achievements have been recognized by several local and international organizations. He is an honorary member of the Society of Flavor Chemists. He has been granted the Palmer Award for his contribution to chromatography by the Minnesota Chromatography Forum. He has received the Distinguished Achievement and Service in Agricultural and Food Chemistry Award and been honored by being made a Fellow by the American Chemical Society. He has been presented the Stephen S. Chang Award by the Institute of Food Technologists (first flavor chemist to be so honored). These are the highest awards given to individuals in the flavor area. In 2006 he was selected to receive the new FEMA (Flavor Extract Manufacturers Association) award. This award comes from the largest flavor industry association in the US. His selection as the *first* recipient of this award reflects their opinion of his standing in the profession.

He often speaks at public schools and other groups. His favorite lay topics are chocolate (he spent 3 years researching chocolate flavor for his Ph.D. thesis) and the chemistry of gourmet cooking. From a professional standpoint, his favorite topic is flavor encapsulation. He has been actively engaged in research in this area since 1964.

Gary Reineccius, Professor and Head
Dept. of Food Science and Nutrition
University of Minnesota
1334 Eckles Ave.
Saint Paul, MN 55108
Email: greinecc@umn.edu; Phone: 612.624.3224

Flavonomics – A “new” tool in flavor research

Gary A. Reineccius

Abstract:

Knowledge is generally obtained in an evolutionary manner: very seldom does one start at the end of a major problem but very gradually over years, methodically move towards understanding and offering a solution. Flavor is no exception. Flavor research has passed through stages of identifying volatiles in foods, searching for key volatile components via statistical or olfactory approaches, studying various food:flavor interactions and more recently flavor release. Through this evolution we have come to acknowledge that flavor perception is multimodal and olfaction is not the only stimulus of concern. We must consider taste, mouthfeel, chemesthetics, appearance, sound, and more in combination with olfaction to create the desired flavor perception. This leads us to a need to measure more stimuli, broader based stimuli, in attempts to link analytical data to perception. It is timely that that "omics" research has lead to us to the relatively new field of metabolomics. This field has been developing methodologies to collect data we need on volatiles, semivolatiles and non-volatiles in an efficient manner. Further, statistical approaches are being simultaneously being developed to handle the vast amount of metabolomics data collected most commonly from NMR and MS output. We need to apply these techniques in flavor research since the existing techniques are nearly 50 years old and have largely yielded what they might. It is time for a ‘new’ approach.

American Chemical Society Cincinnati Section and Hughes STEM High School Partnership

On Friday December 4, 2009, just as the inaugural 9th grade class of the new Hughes Cincinnati STEM High School was beginning their study of chemistry as part of the ninth grade integrated science course, Professor Sibrina Collins of The College of Wooster presented, “Connections between Hip Hop and the Chemical Industry.” Dr. Collins energetically shared with students her background, her passion for both chemistry and hip hop, and drew connections between Hip Hop (a \$10 billion enterprise) and Chemistry (a \$600 billion enterprise).

Which chemistry prize do you think is equivalent to a grammy? Or how many publications equal an album going platinum? Which chemists to you are comparable to Chaka Khan, Lauryn Hill or Snoop Dogg? Students guessed the connections between “bling bling” and chemistry, but were surprised at the connections between “ice” and solid H₂O. While listening to Dr. Collins hip hop mix, students even interpreted hydrogen nmr spectra! The Cincinnati Section is especially grateful to Dr. Collins for her presentation and kicking off the partnership between this new area STEM High School and The Cincinnati Section American Chemical Society.

It is partnerships that set the Hughes STEM High School apart from other high schools in the area. The Cincinnati STEM Hub Partnership is charged with infusing real work based STEM experiences for students and teachers into the curriculum and day to day activities at the school. Partners will also provide internships, coop

(Continued on page 7)

Join in the Chemical Educators' Round Table

What skills, conceptual knowledge, and problem-solving experiences in high school will help students succeed in their first year of college chemistry? This question will be addressed at the next Chemical Educators' Discussion Group on the campus of Xavier University on Wednesday, January 27, from 6:30 to 8:45 PM. We will start the evening with a tour of the freshmen chemistry laboratory facilities and a demonstration of the MeasureNet data acquisition system. We will then move to a classroom space for light refreshments and a dialogue with college professors from the area. We hope to conclude the evening by 8:45 PM.

Attendance at the Cincinnati State meeting in October was very meager. Please consider inviting a new colleague to this January gathering to participate in a vibrant discussion. Questions or comments concerning the program should be directed to Linda Ford (Linda.ford@7hills.org).

DIRECTIONS:

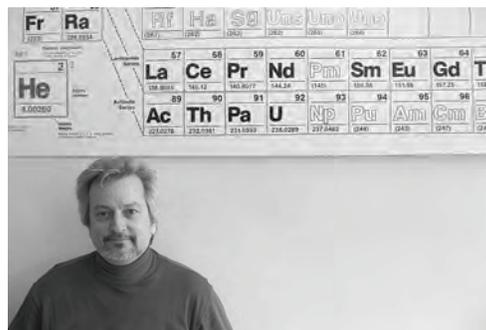
The Xavier University Chemistry Department is located mid way on the Academic Mall in Logan Hall. Follow posted signs to the meeting. Parking is provided free at the Alumni Center on Dana Avenue across the street from Schmidt Hall.

I-71: Exit at Dana Avenue exit. Proceed west on Dana Avenue past Ledgewood Drive. As the road begins a slight turn, the Alumni Center parking area will be on the left before you reach Victory Parkway.

I-75: Exit at Mitchell Avenue. Proceed east on Mitchell Avenue, crossing over Reading Road. Continue to Dana Avenue and turn left. Just after crossing Victory Parkway, the entrance to Alumni Center parking area will be on the right.

Rt. 562: Exit the Norwood Lateral at Reading Road. Continue in the left lane of Reading Road to Victory Parkway. Merge left onto Victory Parkway at the light. Continue to Dana Avenue. Turn left onto Dana Avenue. The entrance to Alumni center parking area will be on the right in about half a block.

-Linda Ford



SPONSORS SOUGHT FOR 8 SECTION MEETINGS IN THE 2009-2010 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 Ed Hunter
at: hunterje@ucmail.uc.edu

[for Ted J. Logan, CHAIR
Sponsorships and Solicitations Committee
Cincinnati Section, ACS]

Interested in National Chemistry Week?

Come to a planning meeting on January 13, 2010 at Givaudan (CDR #1) at 5:30 PM. Find out that National Chemistry Week is FUN. You can be involved a little or a lot. New volunteers and fresh ideas are welcome.

-Susan Hershberger

(Continued from page 5)

opportunities, college coursework, apprenticeships and other real world opportunities for students. Many area companies and universities are also partners with the Hughes STEM High School. The list of partners includes: Strive, Cincinnati Public Schools, Cincinnati Federation of Teachers, The University of Cincinnati, Cincinnati State Technical and Community College, Greater Cincinnati Tech Prep Consortium, Duke Energy, General Electric, Procter and Gamble, Toyota, The Cincinnati Museum Center, The Cincinnati Zoo and Botanical Gardens, The Cincinnati Youth Collaborative, Great Oaks Institute of Technology, Hamilton County Educational Services Center, Mayerson Academy, Cincinnati Section American Chemical Society and Cincinnati Children's Hospital.

Many Cincinnati Section members are already involved in the Hughes STEM High School through their roles in other partners. The Cincinnati Section and its members remain tuned to further partnership activities. The inaugural class of students received an ACS "Periodic Table of Elephants" as well as a real "Periodic Table of Elements" after the presentation. STEM teachers also received "Chemistry With Charisma" published by Terrific Science Press and a Merck Index. Teachers were also our invited guests at the December Section Meeting. These activities were supported by an Innovative Projects Grant funded through the ACS Committee on Local Section Activities.

-Susan Hershberger

ACS CINCINNATI SECTION EDUCATIONAL GRANTS

The Cincinnati Section of the American Chemical Society has funds available for the purpose of improving chemical education in the geographic area served by the local section (OH: Adams, Brown, Butler, Clermont, Clinton, Hamilton, Highland and Warren counties; KY: Boone, Campbell, and Kenton counties; IN: Dearborn and Ohio counties). The Educational Grants Committee was established to make recommendations to the Cincinnati Section Board of Directors for the disbursement of these funds. The committee hereby invites applications for these grants from all members (teachers, students, industrial chemists, etc.) of the chemical community in the service area of the section. Applications will be accepted and reviewed two times during the year according to the following schedule:

Review Month	Application Deadline	Notification Date
April	April 2, 2010	May 3, 2010
December	December 3, 2010	January 10, 2011

Grants will be awarded for such activities as attending educational workshops, participation in summer research programs, innovative education programs, instructional equipment, etc. Proposals, which incorporate the use of funds from other agencies or corporations, including the agency, or corporation, with which the applicant is affiliated, will be given preference in the selection process. Funds will generally not be awarded for the purchase of common supplies or chemicals. However, any application, which meets the basic criteria for which the fund was created, will be given serious consideration.

Grants will be, in most cases, limited to \$1,500; exceptional proposals will be considered for larger amounts. No school or organization will be allowed to receive more than one (1) award per calendar year. Within one year from the time the grant is awarded, a report describing the use of the funds and the impact that the project had on improving chemical education is expected to be forwarded to the committee chairperson, Ms. Gloria Story.

For further information or an application, please visit the Cincinnati Section's website, <http://www.acscincinnati.org/acs/> or contact:

Gloria Story
The Procter and Gamble Co.
8700 Mason-Montgomery Rd.
Mason, OH 45040
Phone: 513-622-3021
E-mail: story.gm@pg.com

The Cincinnati Section of the American Chemical Society

EDUCATIONAL GRANT APPLICATION

DATE: _____

Name: _____

Organization: _____

Department: _____

Address of Organization: _____

County: _____ State: _____ Zip Code: _____

Name and Title of Official Certifying Organizational Compliance with the Grant:

Signature:

Name/Title (print or type):

ACS Member or Affiliate? (circle one): Yes No

How many individuals will benefit from this grant if your proposal is funded? _____

Grant criteria: Funds are to be used to improve chemical education in the area served by the Cincinnati Section of the American Chemical Society.

Grant Proposal: The proposal should contain 300-500 words, double-spaced on official letterhead. It should describe the objective(s) of the project, how the project will be carried out, how the project would improve chemical education, how the program fits into the education program (if the applicant is from a school), and who would benefit. Also, the proposal should contain a detailed budget that outlines expenditures, the amount being requested from the Educational Grant Committee and the amount being requested from other sources.

Send five (5) copies of the application and the proposal to:

Gloria Story

The Procter and Gamble Co.

8700 Mason-Montgomery Rd.

Mason, OH 45040

Phone: 513-662-3021

E-mail: story.gm@pg.com

Reports: Grant recipients are required to submit a report to the Committee within one year from the time of notification of the award. The report will include an outline of how the funds were used, what had been purchased, if anything, with the funds and what benefits have been derived thus far from the use of the funds.

Acknowledgment: It is requested that the major instruments purchased with the use of these funds be tagged with the following acknowledgment: "This equipment was purchased (in part) with an Educational Grant from the Cincinnati Section of the American Chemical Society."

CALL FOR ABSTRACTS

42nd Central Regional Meeting of the ACS

CHEMISTRY: REACTING TO PROVIDE NEW TECHNOLOGIES

June 16-19, 2010 — Dayton Convention Center and Crown Plaza Hotel
in Historic Downtown Dayton, Ohio!

Featured Symposia

Computational Materials Science: Theory, Modeling, & Simulation
Nanomaterials: Synthesis, Structures, Functionalization & Applications
New Vistas in Biotechnology: Chemistry, Materials & Applications
Combinatorial Characterization in Nano-Bio Systems
Chemistry & Materials for Alternative Energy
Metamaterials
Chemistry for Peace
Small Chemical Business Programming
Materials for Aerospace and Space Applications
Chemical Education Symposium and HS Teacher Award
Chemical Information and the Patterson-Crane Award
Minority Leaders in Nanomaterials Research Workshop
Traditional areas, such as Organic, Inorganic, Biochemistry, and P-Chem
Student Poster Sessions

Go to CeRMACS2010.org for more information and to submit your abstract!

Pre- and Post-Meeting Attractions

Dayton Dragons Baseball at Fifth-Third Field, Downtown Dayton –
daytondragons.com
US Air Force Museum – www.nationalmuseum.af.mil
The Dayton Art Institute – www.daytonartinstitute.org
Boonshoft Museum of Discovery – www.boonshoftmuseum.org
Schuster Performing Arts Center – www.schustercenter.org
Historical Oregon District – www.oregondistrict.org
Carillon Historical Park – www.carillonpark.org
The Dayton International Peace Museum – www.daytonpeacemuseum.org
Paramount's Kings Island (35 miles south)
And a Plethora of Wright-Brothers Activities – www.nps.gov/daav



Chemists Celebrate Earth Day 2010: “Plants – The Green Machines!”

The ACS Office of Community Activities (OCA) would like to remind you that **CHEMISTS CELEBRATE EARTH DAY (CCED) will be celebrated on April 22!** The CCED theme for 2010 is “Plants - The Green Machines!” Hopefully you are planning to celebrate on campus anytime during the week of April 22nd.

The 2010 CCED edition of *Celebrating Chemistry* will be available online through the CCED home page in late January. It will contain hands-on activities and articles geared for students in grades 4–6. The CCED Order Forms will also be primed and ready to receive your orders in early January. Email updates regarding the order form and other relevant CCED information will be on the way soon. So get a head start on planning your activities for Chemists Celebrate Earth Day 2010! Stay tuned to www.acs.org/earthday for updates and the latest information as CCED is soon approaching!



Apply by February 1 for Two Student Awards in Green Chemistry

The Joseph Breen Memorial Fellowship sponsors young international green chemistry scholars to participate in an international green chemistry technical meeting, conference, or training program of their choosing. “Young” international scholar is defined as undergraduate students, graduate students, and post-docs. This award is sponsored by a fund that commemorates the commitment and accomplishments of Joe Breen for the advancement of green chemistry.

The Kenneth G. Hancock Memorial Award honors outstanding student contributions to furthering the goals of green chemistry through research or education. The award is a one-time cash award in the amount of \$1,000 (USD) and is open to all undergraduate and graduate students. The award is sponsored by the ACS Division of Environmental Chemistry and the U.S. Department of Commerce, National Institute of Standards & Technology.

Please help the ACS Green Chemistry Institute® spread the word about these awards to students and young scholars. There is no limit on the number of applications that can be submitted from any one academic institution or project advisor, and students may apply for both awards. For details on how to apply for the awards, go to: www.acs.org/greenchemistry > Green Chemistry Awards.

Call to action - Working Together for a Sustainable Future

The ACS Board of Directors and the Sustainability Stakeholders Steering group (S3G) are putting forth a CALL to action. The CALL is the means by which the Society will engage our members and stakeholders to Collaborate, Advance, Learn and Lead on the issue of sustainability.

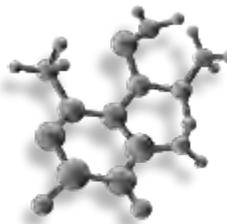
Goal 3 of the *ACS Strategic Plan for 2009 and Beyond* states how the Society is focused on “Addressing Global Challenges” through chemistry. The sustainability CALL to action is a roadmap of seven avenues that chemists, chemistry, and the American Chemical Society can use to address the global challenges of sustainability. We aspire to achieve the following through the CALL to action at <https://communities.acs.org/message/3726> :

- Green Operations
- Advance the Science
- Inform our Members
- Educate the Public
- Prepare Future Chemists
- Policy Advocacy
- Recognize Best Practices



The Society has begun to work in each of these areas, but much more needs to be done. The spring 2010 ACS National Meeting in San Francisco will have the theme of “Chemistry for a Sustainable World.” In addition to attending symposia and listening to technical presentations, you will be able to participate in identifying and building new initiatives through a wide-ranging engagement event and forum.

ACS looks forward to working with you to achieve our vision of “Improving people’s lives through the transforming power of chemistry”. Join the ACS Network at www.acs.org/network or log into the group at <https://communities.acs.org/sustainability-stakeholders-group> to learn more about the initiative and to answer the CALL to action.

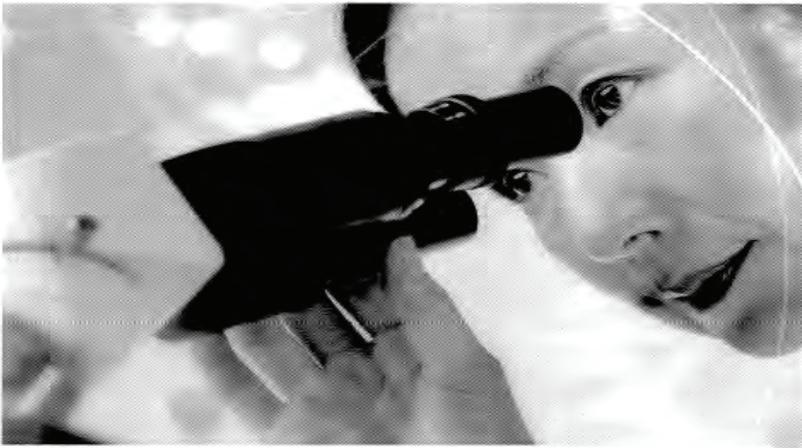


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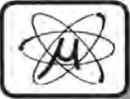
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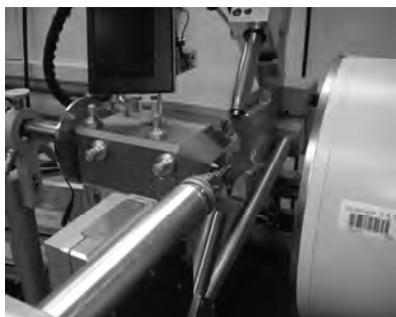
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 - Columns, Septa, Liners, Ferrule, Gas Filters
- **Hypersil BDS™** - Proven Technology
 - C18, C8, Cyano, Phenyl - 2.5µm, 3µm, 5µm
- **Vials** - National Scientific & SUN SRi
 - New Color ID Patch Vials
- **Reacti-Therm & Reagents** - Pierce
 - Heating/stirring & evaporator module

Kentucky - Bob Myers
bob.myers@thermofisher.com
 Phone: 814-883-5152

Ohio - Teri Simon (Rongaus)
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