PRELIMINARY PROGRAM



247TH ACS NATIONAL MEETING

DALLAS, March 16-20

THE DALLAS Convention Center will serve as the location for the 247th American Chemical Society National Meeting.

Symposia supporting the meeting's theme, "Chemistry & Materials for Energy," are organized by thematic program chair Michelle V. Buchanan, associate laboratory director for physical sciences at Oak Ridge National Laboratory.

ACS President Thomas J. Barton will host 29 technical divisions and seven committees in original programming over 806 half-day oral sessions and 127 poster sessions that include Sci-Mix. More than 10,000 papers will be presented, and more than 4,000 poster presentations will take place at the meeting.

Barton will also host numerous events and symposia during the meeting, including a public outreach event, "Exploring Our World through Chemistry," at the Perot Museum of Nature & Science on Saturday, March 15, at 10 AM. The event will provide hands-on, age-appropriate activities.

Many education-focused programs for

MEETING INFO ON THE WEB www.acs.org/dallas2014 high school teachers, undergraduate and graduate students, postdocs, and chemical professionals will be offered. A range of professional development courses will be available; ACS Short Courses have a separate registration and fee. For job seekers and employers, the ACS Career Fair will provide opportunities for interviews (both on-site and online), one-on-one career assistance, and more than 30 career-related workshops.

The exposition will feature more than 200 companies that will showcase services, instruments, books, lab equipment, and much more in more than 300 booths.

The 2014 ACS national award winners will be recognized with a banquet on Tuesday at 6:30 PM, and Stephen J. Lippard, the Arthur Amos Noyes Professor of Chemistry at Massachusetts Institute of Technology, will deliver the Priestley Medal Address. Although the banquet is a ticketed event, all registered meeting attendees are welcome to the Priestley Medal Address at 9:30 PM, free of charge. The Arthur C. Cope Award winners will be recognized at the ACS fall national meeting in San Francisco.

If you have time to spare between these organized events, the Dallas Convention Center itself provides some history about the city—the lobbies and concourses are decorated with mosaics that tell the history of Dallas. Or if you want to venture off the convention center grounds, within walking distance are plenty of restaurants that specialize in Tex-Mex, seafood, Texas barbecue, or steak dinners.—EMILY BONES

REGISTRATION CATEGORY	FEE— STANDARD AFTER FEB. 13
MEMBERS	
ACS member or society affiliate	\$445
Postdoctoral member	445
Emeritus or retired member	235
50-year member	No fee
Unemployed member (Dues waiver required)	No fee
Precollege teacher	105
Graduate, less than postdoctoral	195
Undergraduate	105
One-day registrant	235
NONMEMBERS	
Chemical scientist	\$790
Postdoctoral scientist	790
Visitor: Nonchemical scientist or chemical technician	455
Precollege teacher	105
Graduate, less than postdoctoral	380
Undergraduate	195
One-day registrant	455
Guest of registrant ^a	40
EXPOSITION-ONLY VISITORS	
Adult, exposition only	\$50
Student, exposition only	25

a Registration is restricted to a spouse or family member of registered attendee having no affiliation with the field of chemical science and who is not eligible to become an ACS member. Only one guest registration is allowed per registering attendee, and the guest registration must be completed and paid by the registering attendee at time of original registration.

REGISTRATION

Early Registration. Early registration for the national meeting closed on Feb. 13; registrations or payments received after Feb. 13 will be processed at standard registration rates. Attendees who registered by Feb. 13 should receive their badge credentials in the mail before the meeting. International registrants and early registrants who do not receive their badge credentials before the meeting must pick them up at ACS Attendee Registration (Dallas Convention Center, Lobby A/B).

Standard & On-Site Registration. Standard registration rates are in effect until March 20. Register online at www.acs.org/ dallas2014. A valid ACS membership number must be entered during registration to register as a member and receive your member discount on registration fees. Attendees who register after Feb. 6 must pick up their badge credentials at ACS Attendee Registration in the Dallas Convention Center, Lobby A/B, during the meeting. Please bring your e-mail confirmation for faster processing.

In Dallas, attendees can pick up their badge credentials or complete a new registration using credit card, cash, check, or money order at ACS Attendee Registration in the Dallas Convention Center, Lobby A/B, on Saturday, 3 to 6 PM; Sunday, 7:30 AM to 7:30 PM; Monday, 7:30 AM to 9:30 PM; Tuesday and Wednesday, 7:30

ACS BADGE REPRINT POLICY

1st Badge Reprint: No charge, upon proper identification and confirmation of registration payment, a duplicate badge is issued.

2nd Badge Reprint: Attendee completes a duplicate badge request, shows identification, a charge of \$25 is paid (cash/credit card), a duplicate badge is issued.

3rd Badge Reprint: Attendee completes a duplicate badge request, shows identification, a charge of \$50 is paid (cash/credit card), a duplicate badge is issued.

Beyond 3rd Badge Reprint: Attendee completes a duplicate badge request, shows identification, a charge of \$100 is paid (cash/credit card), a duplicate badge is issued. AM to 5:30 PM; and Thursday, 7:30 AM to 1 PM.

EVENTS & ACTIVITIES

A VARIETY of organizers will host special events during the meeting. Event participation is open to all interested registrants. Some events require purchase of a ticket to participate. View an updated listing of events and activities at www.acs. org/dallas2014.

Some of the following social events require the purchase of a ticket (event number in red), which can be purchased through Attendee Registration. All tickets are sold on a first-come, first-served basis. Ticket sales for specific events will close at 6 PM the evening prior to the event. Cancellation requests must be made by March 22. No tickets will be refunded after March 8.

THURSDAY, MARCH 13

SOCED Reception 6 to 8 PM, Sheraton Dallas, Trinity 3

FRIDAY, MARCH 14

CHAS Workshop: Laboratory Waste Management

8:30 AM to 4:30 PM, Dallas Convention Center, Room A118

CHAS Workshop: Laboratory Safety Workshop

8:30 AM to 4:30 PM, Dallas Convention Center, Rooms A120/A121

SATURDAY, MARCH 15

CHAS Workshop: How To Be a More Effective Chemical Hygiene Officer 8:30 AM to 4:30 PM, Dallas Convention Center, Room A119

CHAS Workshop: Chemical Reactivity Hazards—Laboratory-Scale Recognition & Control

8:30 AM to 4:30 PM, Dallas Convention Center, Rooms A125/126

CHAS Workshop: Job Hazard Analysis 8:30 AM to 4:30 PM, Dallas Convention Center, Room A118 COACh Workshop: COAChing Strong Women in the Art of Strategic Persuasion (Junior & Senior Faculty) 8:30 AM to 5 PM, Hyatt Regency Dallas, Moreno A & B

Presidential Outreach Event: Exploring Our World through Chemistry

10 AM to 2 PM, Perot Museum of Nature & Science, 2201 Field St.

COACh Reception

5 to 7 PM, Hyatt Regency Dallas, Bryan-Breman A/B

CTA 50-Year Anniversary Celebration & Texas BBQ/SE-01/\$35

6 to 9 PM, Gilley's Dallas, 1135 South Lamar St.

SUNDAY, MARCH 16

Undergraduate Hospitality Center 8 AM to 5 PM, Hyatt Regency Dallas, Cumberland K/L

ACS Career Fair Workshop Room

8 AM to 5:30 PM, Omni Dallas Hotel, Greenville

ACS Career Fair Workshop: Career Pathways I

8:30 AM to 5:30 PM, Omni Dallas Hotel, Arts District 5

ACS Career Fair Workshop: Career Pathways II 8:30 AM to 5:30 PM, Omni Dallas Hotel, Arts District 6

ACS Career Fair Workshop: Career Pathways III 8:30 AM to 5:30 PM, Omni Dallas Hotel, Arts District 7

Making the Most of Your National Meeting

9 to 9:45 AM, Hyatt Regency Dallas, Landmark Ballroom A

Graduate School Reality Check I: Getting

9:45 to 11:15 AM, Hyatt Regency Dallas,

FOR ACCOMMODATIONS & TRAVEL DISCOUNTS VISIT www.acs.org/dallas2014

FINAL PROGRAM



Landmark Ballroom B

Harvey Mudd College Alumni Brunch 10 AM to noon, Iron Cactus, 1520 Main St.

Chem Demo Exchange: Household Chemicals 11 AM to 12:30 PM, Dallas Convention

Center, Hall A

Graduate School Reality Check: You're In—Now What? 11:15 AM to 12:15 PM, Hyatt Regency Dallas, Landmark Ballroom B

CHED High School-College Interface Luncheon/SE-02/\$40

(Included at no charge with high school teacher registration.) 11:45 AM to 1 PM, Hyatt Regency Dallas, Reunion Ballroom E

SCHB Poster Session 1 to 1:30 PM, Sheraton Dallas, Lone Star C4

SOCED: The Many Faces of Energy Research 1 to 2:30 PM, Hyatt Regency Dallas, Landmark Ballroom D

Networking Social with Graduate School Recruiters

1 to 5 PM, Hyatt Regency Dallas, Landmark Ballroom C

Careers in the Energy Industry Panel 2:45 to 4 PM, Hyatt Regency Dallas, Landmark Ballroom B

SOCED: Improving Scientific Communication Skills 2:45 to 4 PM, Hyatt Regency Dallas, Landmark Ballroom D

Chemistry & Materials for Energy Plenary 3 to 5:05 PM, Dallas Convention Center, Ballroom A

Workshop: Making Demos Matter 4 to 5:30 PM, Hyatt Regency Dallas, Landmark Ballroom A

ENVR Centennial Cupcake Social 5 to 6 PM, Marriott Dallas City Center, Cambridge

Author Reviewer Reception 5 to 7 PM, Omni Dallas Hotel, Dallas Ballroom A/B

University of Wisconsin, Madison, Chemistry Department Reception 5 to 7 PM, Sheraton Dallas, Majestic 1

Chemistry at Illinois Alumni & Friends Reception 5 to 8 PM, Dallas Convention Center, Room A201

ACS Diversity Reception 5:30 to 7:30 PM, Sheraton Dallas, Dallas Ballroom A2

CHED Social Reception 5:30 to 7 PM, Dallas Convention Center, Room A202

IAC International Welcome Reception 5:30 to 7:30 PM, Sheraton Dallas, Dallas Ballroom C **Reception in Honor of the Awardee for Research at an Undergraduate Institution** 5:30 to 7:30 PM, Omni Dallas Hotel, Katy Trail Room

BIOL Poster Session 5:30 to 8 PM, Dallas Convention Center, Hall E

COLL Poster Session 5:30 to 8 PM, Dallas Convention Center, Hall A

District II Councilor Caucus 6 to 7 PM, Sheraton Dallas, Lone Star C2

District IV Councilor Caucus 6 to 7 PM, Sheraton Dallas, Houston Ballroom A

District V Councilor Caucus 6 to 7 PM, Sheraton Dallas, Houston Ballroom B

District VI Councilor Caucus 6 to 7 PM, Sheraton Dallas, Houston Ballroom C

Mid-Atlantic Councilor Caucus 6 to 7 PM, Sheraton Dallas, Seminar

INOR Poster Session 6 to 8 PM, Dallas Convention Center, Hall F

Expo Attendee Welcome Reception 6 to 8:30 PM, Dallas Convention Center, Halls C & D

National Chemical Technician Awards Banquet/SE-03/\$60 6 to 9 PM, Sheraton Dallas, State Room 2

CINF Welcoming Reception 6:30 to 8:30 PM, Omni Dallas Hotel, Dallas Ballroom C

ACS Student Chapter Awards Ceremony 7 to 8:30 PM, Hyatt Regency Dallas, Marsalis Hall A

CHED Poster Session 7 to 9 PM, Dallas Convention Center, Hall A

MEDI General Poster Session 7 to 9 PM, Dallas Convention Center, Hall E

The College of New Jersey Alumni & Friends Gathering 8:30 to 10:30 PM, Iron Cactus, 1520 Main St. Undergraduate Social 8:30 to 11 PM, Hyatt Regency Dallas, Marsalis Hall B

MONDAY, MARCH 17

WCC Women in the Chemical Enterprises Breakfast/SE-04/\$40 (regular)/ SE-05/\$20 (student) 7:30 to 9 AM, Sheraton Dallas, Dallas Ballroom A1

Undergraduate Hospitality Center 8 AM to 5 PM, Hyatt Regency Dallas, Cumberland K/L

ACS International Lounge

 $8\,\mathrm{AM}$ to $6\,\mathrm{PM},$ Dallas Convention Center, Lobby A/B

ACS Career Fair Workshop: Career Pathways I 8:30 AM to 5:30 PM, Omni Dallas Hotel, Arts District 5

ACS Career Fair Workshop: Career Pathways II 8:30 AM to 5:30 PM, Omni Dallas Hotel, Arts District 6

ACS Career Fair Workshop: Career Pathways III 8:30 AM to 5:30 PM, Omni Dallas Hotel, Arts District 7

Technical Symposium: Materials Science & Energy Research 9 to 10:30 AM, Dallas Convention Center, Rooms D167 & D174

ACS Exposition 9 AM to 5 PM, Dallas Convention Center, Halls C & D

Workshop: Chemists Celebrate Earth Day Research Event 9:45 to 11:45 AM, Dallas Convention Center, Room A201

Women Chemists of Color Social 10 AM to noon, Sheraton Dallas, Majestic 5

DIGITAL MEETING PROGRAM AVAILABLE AT www.acs.org/dallas2014

Technical Symposium: How To Network 10:45 AM to noon, Dallas Convention Center, Rooms D167 & D174

Undergraduate Poster Session 11 AM to 2 PM, Dallas Convention Center, Hall F

CMA Luncheon/SE-06/\$50 (regular)/ SE-07/\$25 (student) 11:30 AM to 1:30 PM, Sheraton Dallas, Dallas Ballroom A1

CHED Green Chemistry Commitment Luncheon Noon to 1 PM, Hyatt Regency Dallas, Cotton Bowl

CHAL Drug & Power Luncheon/ SE-08/\$40

Noon to 1:30 PM, Dallas Convention Center, Bluffview

SCHB & PROF Speaker Luncheon (RSVP to pidgirl@gmail.com.) Noon to 1:30 PM, Sheraton Dallas, Majestic 7

Eminent Scientist Lecture 2:30 to 3:30 PM, Dallas Convention Center, Rooms D167 & D174

Undergraduate Speed Networking with Chemistry Professionals 3:45 to 5:15 PM, Dallas Convention Center, Hall A

The Kavli Foundation Emerging Leader in Chemistry Lecture 4 to 5:05 PM, Dallas Convention Center, Ballroom A

The Fred Kavli Innovations in Chemistry Lecture 5:30 to 6:30 PM, Dallas Convention Center, Ballroom A

SCHB Social/Networking Reception 5:30 to 7:30 PM, Iron Cactus, 1520 Main St.

ACS Graduate & Postdoctoral Scholars Reception

7 to 8:30 PM, Dallas Convention Center, Ballroom C2

Purdue University Alumni Reception/ SE-09/no charge

7 to 9 PM, Dallas Convention Center, Bluffview Sci-Mix Interdivisional Poster Session & Mixer

(Drink ticket with registration.) 8 to 10 PM, Dallas Convention Center, Hall F

TUESDAY, MARCH 18

Senior Chemists Breakfast/SE-10/\$15 7:30 to 9:30 AM, Sheraton Dallas, Austin Ballroom 1

University of Minnesota Alumni & Friends Breakfast/SE-11/\$5 7:30 to 9:30 AM, Dallas Convention Center, Room A202

GCI Workshop: Greening Your Research/ SE-21/\$50 8 AM to 5 PM, Sheraton Dallas, Majestic 2

ACS International Lounge 8 AM to 6 PM, Dallas Convention Center, Lobby A/B

ACS Career Fair Workshop: Career Pathways I 8:30 AM to 5:30 PM, Omni Dallas Hotel, Arts District 5

ACS Career Fair Workshop: Career Pathways II 8:30 AM to 5:30 PM, Omni Dallas Hotel, Arts District 6

ACS Career Fair Workshop: Career Pathways III 8:30 AM to 5:30 PM, Omni Dallas Hotel, Arts District 7

ACS Exposition 9 AM to 5 PM, Dallas Convention Center, Halls C & D

WCC/Eli Lilly & Co. Poster Session 11 AM to noon, Sheraton Dallas, Lone Star B

Alpha Chi Sigma Luncheon/\$25 (RSVP to gpa@alphachisigma.org.) 11 AM to 1 PM, Omni Dallas Hotel, Texas Spice Restaurant

CINF Luncheon/SE-16/\$15 Noon to 1:30 PM, Omni Dallas Hotel, Katy Trail Room

COLL Luncheon/SE-12/\$40 Noon to 1:30 PM, Dallas Convention Center, Room D222

TECHNICAL PROGRAM

SCHB & PROF Speaker Luncheon (RSVP to pidgirl@gmail.com.) Noon to 1:30 PM, Sheraton Dallas, Majestic 7

WCC Luncheon/SE-13/\$50 (regular)/ SE-14/\$25 (student) Noon to 1:30 PM, Sheraton Dallas, Lone Star B

CEI Movie Noon to 2 PM, Dallas Convention Center, Room D166

MEDI Lunch & Learn/SE-15/\$15 Noon to 2 PM, Dallas Convention Center, Ballroom A4

ENFL Poster Sessions 2 to 4 PM, Dallas Convention Center, Halls C & D, Town Center

AGFD Poster Session 2 to 5 PM, Dallas Convention Center, Halls C & D, Town Center

Local Section Officers. Outreach **Coordinator & Speakers Reception** 3:30 to 5:30 PM, Sheraton Dallas, Lone Star C_1

Division Councilors & Officers Caucus 4 to 6 PM, Sheraton Dallas, Lone Star C₃

I&EC Poster Session 5 to 6:30 PM, Dallas Convention Center, Hall F

Iota Sigma Pi-National Honor Society for Women in Chemistry Reception 5 to 7 PM, Dallas Convention Center, Bluffview

University of Chicago Department of **Chemistry Alumni Reception** 5 to 7 PM, Dallas Convention Center, Room A306

District I Councilor Caucus 5:30 to 7 PM, Sheraton Dallas, San Antonio Ballroom B

Joint PMSE/POLY Poster Session 5:30 to 7:30 PM, Dallas Convention Center, Hall A

BIOL Poster Session 5:30 to 8 PM, Dallas Convention Center, Hall E

ENVR Reception/SE-17/\$10 6 to 7:30 PM, Old Red Museum, 1005 Houston St.

BIOT Poster Session 6 to 8 PM, Omni Dallas Hotel, Dallas Ballroom A-C

COMP Poster Session & Awards 6 to 8 PM, Omni Dallas Hotel, Dallas Ballroom D/H

INOR Poster Session 6 to 8 PM, Dallas Convention Center, Hall F CARB Poster Session 6 to 9 PM, Dallas Convention Center, Hall F

CELL Anselme Payen Award Banquet/ SE-18/\$65 6 to 10 PM, Dallas World Aquarium, Reef Room & Port Hole, 1801 North Griffin St.

ACS National Awards Reception 6:30 to 7:30 PM, The Fairmont Dallas, Regency Foyer

ANYL Poster Session 7 to 9 PM, Dallas Convention Center, Hall F

ENFL Division Dinner/SE-19/\$65 7:30 to 9 PM, Five Sixty by Wolfgang Puck, 300 Reunion Blvd. East

ACS National Awards Banquet & General Meeting of the Society/SE-20/\$130 7:30 to 10 PM, The Fairmont Dallas, Regency Ballroom

WEDNESDAY, MARCH 19

ENVR Centennial Cupcake Social 5 to 6 PM, Marriott Dallas City Center, Plaza C

ENVR & PHYS Poster Sessions 6 to 8 PM, Dallas Convention Center, Hall F

Joint MEDI & ORGN Poster Session 7 to 10 PM, Dallas Convention Center, Ballroom A



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EXPOSITION

SEE WHAT'S NEW INSIDE THE

EXPOSITION. Visit the ACS National Exposition at the Dallas Convention Center, Halls C–D, from Sunday, March 16, through Tuesday, March 18. The show hours will be Sunday, 6 to 8:30 PM, and Monday and Tuesday, 9 AM to 5 PM.

Companies will showcase services, instruments, books, computer hardware, scientific software, and an array of chromatographic, lab, and safety equipment. Technical personnel will give demonstrations, answer questions, and discuss needs and interests. You can also visit the ACS Career Fair Recruiters Row inside the exposition, where employers will showcase their products and services. Also, join us at the ACS Booth in the middle of the exposition floor where ACS staff members will present the many benefits, services, products, and merchandise offered by ACS. **Online Exposition.** The Online Exposition is a component within the Exhibitor Directory that enables attendees to view videos, press releases, brochures, and flyers of participating exhibitors. Access the Online Exposition at www.acs. org/dallas2014 to learn more about exhibiting companies and to download product information that meets your needs.

Free Exhibitor Workshops. Free workshops will be hosted by exhibitors on the exposition floor and in private rooms inside the Dallas Convention Center. These workshops will introduce new products and services, build skills with specific tools and techniques, and highlight innovative applications that may improve your productivity. Preregister at www.acs.org/dallas2014 to reserve your seat.

Presentations, Prizes & Special Events. Visit the Daily Prize Raffle area from Sunday through Tuesday for a chance to win a prize. Also, don't forget to join us on Sunday from 6 to 8:30 PM for the Attendee Welcome Reception and special events by ACS Publications. Visit the exposition on Monday and Tuesday from 1 to 3 PM for treats in the Town Center.

Internet & Technology. Utilize free Internet access and leave messages for one another at the Meeting Mail terminals located throughout the meeting. Also, enjoy free Wi-Fi service at designated areas in the Dallas Convention Center.

Admission Requirements & Expo-Only Registration. Exposition admission is complimentary for all national meeting registrants; however, you are required to wear your badge. Individuals who want to visit the exhibits without registering for the technical component of the national meeting can obtain an expo-only badge for \$50. Students with school identification can obtain an expo-only badge for \$25. Registration can be handled online or in person at ACS Attendee Registration in the Lobby A/B.

EXHIBITOR WORKSHOPS

EXHIBITING COMPANIES will host free education sessions for attendees that will introduce new products and services, build skills with specific tools and techniques, and highlight innovative applications for existing instrumentation. Visit www.acs.org/dallas2014 to register for workshops and be entered to win a prize.

MONDAY, MARCH 17

Advances in Chromatography & Mass Spectrometry Technology. Sponsor: Thermo Scientific, Dallas Convention Center, Room A202, 9:30 AM to noon. 9:30 AM. Reduce helium consumption and costs with Helium Saver technology. 10 AM. Determine APIs and excipients (acids, bases, neutrals) in one injection. 10:30 AM. Reduce polyatomic interferences in inductively coupled plasma MS. 11 AM. Introducing the Orbitrap Fusion and TSQ Quantiva mass spectrometers. 11:30 AM. High-pressure ion chromatography for high-efficiency separations.

Chemistry Teaching Tools. *Sponsor:* McGraw-Hill Education, Workshop Room 1, 9:30 AM to 3 PM. Adaptive Learning To Help Prepare & Engage Your Students for Success. 9:30 AM. Presenter: Jason Overby, College of Charleston. Learn about adaptive technologies for your students: LearnSmart Prep, Smartbook, and LearnSmart Labs. Using Technology in an Organic Chemistry Classroom. 11 AM. Presenter: Michael Lewis, Saint Louis University, and Layne Morsch, University of Illinois. Get a glimpse into how these organic chemistry professors successfully utilize online learning tools with their students.

Flipping the Classroom. 12:30 PM. Presenter: Danaè Quirk Dorr, Minnesota State University. Learn more about strategies and tools available to help you consider whether flipping your classroom is right for you and your students.

Moving Beyond Traditional Homework. 2 PM. Presenter: Adam Moser, Loras College. Are you struggling to find an adaptive online learning system that is right for you? Find out if ALEKS for Chemistry is the right choice.

Incorporating the picoSpin NMR Spectrometer into Organic Chemistry Labs. *Sponsor:* Thermo Scientific, Workshop Room 2, 12:30 to 3 PM. Benchtop NMR is available as an exciting and cost-effective addition to FTIR and UV-Vis in an organic chemistry class. But how easy is it to integrate a benchtop NMR spectrometer?

Moving Mainstream Chemical Research to the Cloud—A New Paradigm in Data Collection. Sponsor: PerkinElmer, Room D220, 12:30 to 3 PM. This workshop will introduce customers to a new offering in data collection. Customers can take part in a discussion with product manager Nicolas Encina. The capabilities of PerkinElmer's cloud-based intuitive solution for collecting data will be demonstrated. Participants should bring a laptop to have a true hands-on experience.

Characterizing Structure & Chemistry of Functional Nanomaterials. Sponsor: FEI, Room D220, 3:30 to 6 PM. The development of technologies for efficient use of resources, energy conversion, transportation, or environmental protection rely on advances in developing nanostructures and nanomaterials. Characterization on the subnanometer scale and focus on structural evolution with the link to the nanomaterial's "performance" play a crucial role for discovering the relationship between structure, unique property, and function in these small systems. In this workshop, we will profile cases in catalyst development

and in polymer engineering and take you through electron microscopy characterization methods that will enable you to gain insight to the structure of your functional nanomaterials.

TUESDAY, MARCH 18

Good Chromatographic Methods Don't Grow on Trees. Sponsor: Waters Corp., Workshop Room 1, 9:30 AM to noon. The development of chromatographic methods requires consideration of many variables. We will present a systematic approach for developing methods that incorporate commonly adjusted parameters and how they impact chromatographic separation. We will discuss how the Acquity UPLC H-Class with both optical and mass detection can streamline the development process by reducing or eliminating the need for injection of standards for tracking and identifying components. We will also discuss how the Empower software simplifies the decision-making process throughout development using custom calculations and reporting.

How To Successfully Publish Scientific

Articles. Sponsor: Elsevier B.V., Room D220, 9:30 AM to noon. This workshop is aimed at young researchers, Ph.D. students, postdocs, and anyone who wants to know more about publishing their work in a scientific journal. The first 45 who register will get a Scientific Publishing Starter Pack.

Rethinking Raman Imaging: Simplify Your Analysis Workflow. Sponsor: Thermo Scientific, Workshop Room 2, 9:30 AM to noon. Raman imaging is a tool for research in many fields, and you may not have the technical expertise to interpret Raman spectroscopy. Use an intuitive approach to chemical imaging with the Thermo Scientific DXRxi Raman imaging microscope. Its image-centric design and visually driven workflow yield expert results in minimal time and without the need to be an expert in Raman. See mineralogical studies and the development of monolayer graphene growth processes during this workshop.

Analysis of Polymers by FTIR Spectroscopy & Microscopy. Sponsor: Bruker, Workshop Room 1, 12:30 to 3 PM. Presenter: Sergey Shilov, senior application scientist. The latest advances in instrumentation and applications will be reviewed with a discussion of the following topics: polymers identification and classification, additives and contamination, fast reaction monitoring, defects analysis using FTIR microscopy, dynamic properties, and 2-D correlation spectroscopy.

Curve Fitting & Peak Analysis Using Origin. *Sponsor*: OriginLab, Room D220, 12:30 to 3 PM. This workshop will focus on curve fitting and peak analysis using Origin, including the use of Gadgets for quick graphical analysis and batch analysis of multiple data sets. A free twomonth evaluation license for the latest version will be provided.

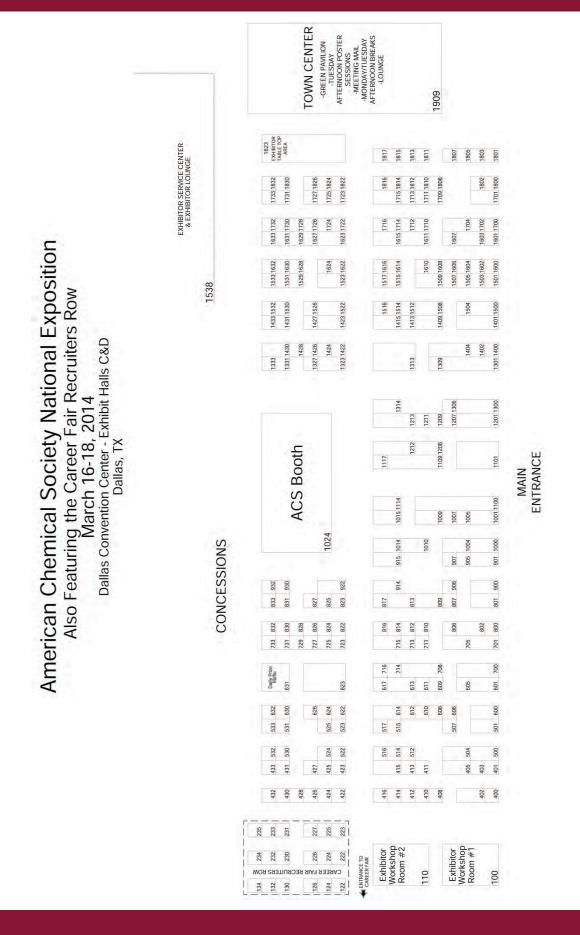
Polymer Characterization Workshop.

Sponsor: Tosoh Bioscience, Workshop Room 2, 12:30 to 3 PM. Learn about polymer characterization via separation science, including applications, help with selecting the right column, and hearing from speakers that are in the industry. Attendees will receive a complimentary gift.

WEDNESDAY, MARCH 19

Atomic-Scale Modeling & Electron Transport in Nanostructures. Sponsor: QuantumWise A/S, Room D220, 12:30 to 3 PM. This will be a hands-on tutorial with the Atomistix ToolKit. You will learn how to build advanced nanostructures such as graphene, interfaces, MoS₂, or molecular electronics devices and simulate their electrical properties and phonon thermal transport. For the methodology, you will use both classical potentials: tight binding and density functional theory. Bring your laptop that runs Windows or Linux and get a copy of the software installed with a twomonth extension license.





EXHIBITORS

The following list exhibitors, as of February 7th, and is the property of the American Chemical Society. Any unauthorized use of this list, or any part thereof, either directly or indirectly, is strictly prohibited.

Visit the Online ACS National Exposition at www.acs.org/dallas2014 to download the updated exhibitor list and access product information.

1-Material Inc., 2290 Chemin St-Francois, Dorval, Quebec, Canada H9P 1K2, 514-684-6969, fax: 514-684-8989, Internet: www.1-material. com 1-Material supports your R&D in OPV, OLED, OTFT and printing electronics by provid-ing standard and reproducible ONE (1=ONE, Oversein Obec Electronic) extended according to Ing standard and reproducible ONE (1=ONE, Organic Nano Electronic) materials according to your needs, confidentially and in a reliable man-ner. Featured ONE Materials: PCE-10, PTB7, PCDTBT, PCPDTBT, DT-PDPPZT-TT, PBDTTT-C, PBDTTT-CF,DTS(FBTTh2)2, DTS(PTTh2)2, CP, SIMEF, PCBM, ICBA, and Perovskite Solar Ma-terials: CH3NH3PbI3, Spiro-OMeTAD, Poly-TPD. A chemical is not a material until its per-formance is reproduced Our ONE materials are formance is reproduced.Our ONE materials are consistently delivering scientific world-record performances in Advanced Materials, Nature and Science.

AAPS (Amer Assoc. of Pharm Sci.), 2107 Wilson Blvd., Suite 700, Arlington, VA 22201, 703-243-2800, Internet: www.aaps.org AAPS provides an international forum for the exchange of knowledge among scientists to enhance their contri-butions to health. We offer scientific programs, ongoing education, networking opportunities, and professional development. Join AAPS and gain access to customized journal searches, pharmaceutical news and discounts on meet-ings, conferences and more. **1722**

ACS Career Navigator, 1155 16th Street, NW, Washington, DC 20036, 202-872-6031, e-mail: j_titus-young@acs.org, Internet: http://www.acs. org/content/acs/en/careers/profdev.html ACS on Campus is a Society-wide outreach program dedicated to helping students, post-docs and faculty advance in their careers. The program accomplishes this by bringing leaders in the fields of chemistry, publishing, research, science communication and career development to university campuses to present seminars and work-shops focused on how to:

- Publish in top journals
- Find a job
 Effectively use research tools like SciFinder® and ChemWorx

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- Write grant proposals
- Communicate your science • Build industry partnerships

ACS Committee on Chemical Safety, P.O. Box 152329, San Diego, CA, United States 92195, 619-990-4908, The ACS Committee on Chemi-cal Safety (CCS) and the Division of Chemical Health and Safety (CHAS) provide leadership and technical guidance to all ACS members and the community regarding the cafe and proper the community regarding the safe and proper handling of chemicals. Chemical safety practices are supported across the entire chemical enter-prise from K-12 through college and graduate school into the industrial and academic work-823 place.

ACS Division of Small Chemical Businesses (SCHB), 470 Friendship Rd., Suite 10, Harris-burg, PA, United States 17111, 717-623-8201, e-mail:expo-booth@acs-schb.org, Internet: www. acs-schb.org SCHB: Where all the elements

come together for a successful chemical busi-ness. The ACS Division of Small Chemical Businesses (SCHB) has objectives "To aid in the formation, development, and growth of small chemical businesses." SCHB helps chemists working in small enterprises, including self-employed, with the legal, social, educational, legislative, regulatory, and economic aspects of their microsoft actions of the social sectors of their unique professional status. SCHB serves as a clearinghouse of information, a forum for dis-cussion, and a liaison between small businesses 522 and students.

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PRESIDENTIAL SYMPOSIA AND EVENTS

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SATURDAY, MARCH 15, 2014

10:00 AM - 2:00 PM ACS Presidential Outreach Event - Exploring Our World Through Chemistry Cosponsored by CCA Perot Museum of Nature and Science 2201 N. Field Street – Dallas, TX

SUNDAY, MARCH 16, 2014 1:30 - 5:00 PM

1:30 - 3:00 FA

ACS Presidential Symposium on Engaging Chemistry Departments in the Preparation of Chemistry Teachers Cosponsored by SOCED

Sheraton Dallas, Dallas Ballroom D3 (1st Floor Conference Center)

MONDAY MARCH 17, 2014

8:00 - 11:45 AM

ACS Presidential Symposium on the Benefits of Chemistry in Our Lives

Cosponsored by CPRC, AGFD, AGRO, CHAS, CINF, ENFL, ENVR, HIST, I&EC, MEDI, PMSE & POLY Sheraton Dallas, Austin Ballroom 2 (North Tower-2nd Floor)

TUESDAY, MARCH 18, 2014

8:00 AM - 12:45 PM

Earle B. Barnes Award for Leadership in Chemical Management: Symposium in Honor of William F. Banholzer-Chief Technical Officers (CTO) PERSPECTIVES: Advice from Leading CTO in the Chemical Industry on Career, Research Management and Future Trends

Sponsored by I&EC and cosponsored by PRES, Corporation Associates, ORGN & YCC

Dallas Convention Center, Room C146 (Level 1)

9:00 AM - 5:00PM

ACS/Dreyfus Symposium on Chemical Instrumentation Cosponsored by The Camille and Henry Dreyfus Foundation, Inc. Sheraton Dallas, Austin Ballroom 2 (North Tower-2nd Floor)

OTHER SYMPOSIA AND EVENTS RECOMMENDED BY THE PRESIDENT

SUNDAY, MARCH 16, 2014

8:30 AM - 5:00 PM

Excellence in Graduate Polymer Research Sponsored by POLY and cosponsored by PRES, PROF, SOCED & YCC *Hyatt Regency Dallas, Reverchon A/B (Atrium Level)*

MONDAY, MARCH 17, 2014

8:00 AM - 12:00 PM

Cyber Security: What You Can Do To Protect Your Business Sponsored by SCHB and cosponsored by PRES & PROF Sheraton Dallas, Lone Star C4 (2nd Floor Conference Center) 8:30 AM - 4:40 PM

Excellence in Graduate Polymer Research

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8:55 AM - 4:45 PM

Fifty Years of the James Flack Norris Award: The Foundations of Physical Organic Chemistry

Sponsored by HIST and cosponsored by PRES, NESACS & ORGN Omni Dallas Hotel, South Side 1 Room (Level Three)

TUESDAY, MARCH 18, 2014

5:30 PM - 7:30 PM

Excellence in Graduate Polymer Research Poster Session Sponsored by POLY and cosponsored by PRES, PROF, SOCED & YCC Dallas Convention Center, Hall A (Level 2)