ACS NATIONAL MEETING

254th ACS National Meeting

Washington, D.C., August 20–24

“Chemistry’s Impact on the Global Economy” will be the theme in Washington, D.C., this August. Many notable symposia are scheduled, including “Building a Safety Culture across the Chemical Enterprise” and “Working in the Public Sector: Running for Elected Office.” ACS President Allison A. Campbell will lead an invitation-only ACS Chemistry on the Hill Advocacy Workshop on Sunday morning, Aug. 20, to help younger chemists learn to engage with Congress.

Campbell will host 29 technical divisions and five committees in original programming, including 1,035 half-day oral sessions, 146 poster sessions, and Sci-Mix. More than 9,370 papers and 2,720 posters will be presented at the meeting.

In concert with the meeting theme, Campbell will sponsor several presidential events. “Science Communications: The Art of Developing a Clear Message” on Sunday, Aug. 20, will help members learn to clearly communicate research. On Tuesday, Aug. 22, “Understanding the Chemistry of Our Planet” will highlight the importance of chemistry to life on Earth. Details on these and other presidential events can be found at www.acs.org/wdc17.

Many education-focused programs for high school teachers, undergraduate and graduate students, postdocs, and chemical professionals will be offered. A range of professional development courses will be available; ACS Professional Education Short Courses have a separate registration and fee. For job seekers and employers, the career fair will provide opportunities for on-site interviews, one-on-one career assistance, and career-related workshops.

The exposition will feature more than 250 companies showcasing services, instruments, books, and lab equipment.—ALEXANDRA TAYLOR

MEETING INFO ON THE WEB
www.acs.org/wdc17

REGISTRATION CATEGORY | FEE
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MEMBERS | 
ACS affiliate | $535
Postdoctoral member | 535
Emeritus or retired member | 270
50-year member | No fee
Unemployed member (Dues waiver required) | No fee
Precollege teacher | 110
Graduate student | 225
Undergraduate student | 110
One-day registrant | 270

NONMEMBERS | 
Chemical scientist | $935
Postdoctoral scientist | 935
Visitor: Nonchemical scientist or chemical technician | 535
Precollege teacher | 110
Graduate student | 445
Undergraduate student | 225
One-day registrant | 535
Guest of registrant* | 45

EXPOSITION-ONLY VISITORS | 
Adult | $60
Student | 30

*Registration is restricted to a spouse or family member of a 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 the time of original registration.
JOIN US FOR THE
ACS BOARD OF DIRECTORS
REGULAR SESSION

Sunday, August 20, 2017
Noon - 1:00 p.m.

Walter E. Washington Convention Center – Ballroom
Doors open at 11:45 a.m.

Sandwiches and soft drinks while supplies last
## General meeting information

### Registration

All attendees, including speakers and poster presenters, must register for the meeting to participate in the technical sessions. Sponsored speakers should contact their symposium organizer or division program chair to clarify the terms of their invitation and to determine who will complete the speaker’s registration. Attendees must display their badge at all times for admission to all official ACS sessions and events.

**Early registration.** Attendees in the U.S. who registered prior to July 10 will receive their badge credentials by mail before the meeting. International registrants must pick up their badge credentials at ACS attendee registration (this includes Canada and Mexico).

**Standard & on-site registration.** Attendees who register after July 10 must pick up their badge credentials on-site at attendee registration areas. On-site registration will be available at the Walter E. Washington Convention Center, Salons G–I; the Marriott Marquis Washington DC, Meeting Level 1; and the Grand Hyatt Washington, Independence Foyer. Cash transactions will not be available at the satellite registration areas. Only checks and credit cards can be used to make purchases at the satellite registration areas. ACS attendee registration will open at the Walter E. Washington Convention Center, Salons G–I, on Saturday, 3 to 6 PM; Sunday, 7:30 AM to 7:30 PM; Monday, 7:30 AM to 9 PM; Tuesday, 7:30 AM to 5 PM; Wednesday, 7:30 AM to 4 PM; and Thursday, 7:30 AM to 1 PM. The satellite registration areas will follow the same schedule but are subject to change depending on the activity at the location.

**Satellite registration & on-site program pickup.** Printed copies of the on-site program book will no longer be available for free. In support of ACS’s sustainability efforts, we encourage the use of the ACS Washington, D.C., mobile app and digital program for quick access to the meeting’s full technical program, maps, and search features.

**Prefer a printed on-site program?** The on-site program book will now be available for a $20 fee. The author index will be included in the printed program booklet. Purchase your copy during the registration process or visit the locations listed below. Limited quantities will be available. Replacement copies also cost $20. Cash transactions will not be permitted at the satellite registration areas. Only credit cards or checks can be used to make purchases at the satellite registration areas. Printed programs can be picked up or purchased at the following locations:

- Walter E. Washington Convention Center, Salons G–I
- Marriott Marquis Washington DC, Meeting Level 1
- Grand Hyatt Washington, Independence Foyer

Learn about ACS national meeting sustainability efforts at www.acs.org/greenmeetings. Questions? Contact national-meetings@acs.org.

### Travel

**TRANSPORTATION DISCOUNTS.** ACS has negotiated special travel discounts with the following partners. To get the best rates and avoid service fees, it is recommended to make reservations online (except for Amtrak).

**AIRLINES:**

- **Delta**
  delta.com/meeting; (800) 328-1111
  Discount code: NMPBR

- **United Airlines**
  united.com; (800) 426-1122
  Discount code: ZWME244449

- **Southwest Airlines**
  swabiz.com
  Discount code: 99331750 (online reservations only)

**RAIL:**

- **Amtrak**
  (800) 872-7245
  Discount code: X91C-958 (phone reservations only)

**CAR RENTAL:**

- **Avis**
  avis.com; (800) 331-1600
  Discount code: B923099

- **Advantage Rent A Car**
  (800) 777-5500
  Discount Code: CD02C826E8

**AIRPORT GROUND TRANSPORTATION.**

- **Reagan National Airport** is located across the Potomac River in Virginia and is the closest airport to D.C. It is accessible via its own Metro stop on the Blue and Yellow Lines. To catch a taxi, look for the official taxi stand outside baggage claim. A ride into downtown D.C. will cost $15–$20.

- **Dulles Airport** is located 26 miles from D.C. in suburban Virginia. Taxi stands are located outside the main terminal at Doors 2 and 6. A ride into D.C. will cost $60–$68. Washington Flyer also offers a Silver Line Express Bus that drops off at the Wiehle-Reston East Metro station about 15 minutes away. Silver Line Express Bus fare is $5.00 one way. Purchase tickets inside the airport at Arrival Door 4. Visit bit.ly/2s9qhSQ for more information.

- **Baltimore-Washington International (BWI) Airport** is a bit further out, in Baltimore. BWI is accessible via an Amtrak or MARC train route that stops at D.C.’s Union Station. A reserved seat on the train will cost up to $30. Please visit bit.ly/1GuPKrv for more information.

**TRAVELING TO MEETING VENUES.**

The Walter E. Washington Convention Center is located across the Potomac River in Virginia and is the closest airport to D.C. It is accessible via its own Metro stop on the Blue and Yellow Lines. To catch a taxi, look for the official taxi stand outside baggage claim. A ride into downtown D.C. will cost $15–$20.

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### ACS badge reprint policy

First badge reprint: No charge; upon proper identification and confirmation of registration payment, a duplicate badge is issued.

Second badge reprint: Attendee completes a duplicate badge request, shows identification, and pays a charge of $25 (cash/credit card), and a duplicate badge is issued.

Third badge reprint: Attendee completes a duplicate badge request, shows identification, and pays a charge of $50 (cash/credit card), and a duplicate badge is issued.

Beyond third badge reprint: Attendee completes a duplicate badge request, shows identification, and pays a charge of $100 (cash/credit card), and a duplicate badge is issued.
MEETINGS

Center is located at 801 Mt. Vernon Place N.W.
Parking. Most hotels have parking facilities, and visitors can find convenient street or garage parking with apps such as ParkWhiz or SpotHero.

Metrorail. The Walter E. Washington Convention Center has a dedicated Metro station serviced by the Yellow and Green Lines. Metro operates from 5 AM to 11:30 PM Monday through Thursday, 5 AM to 1 AM on Friday, 7 AM to 1 AM on Saturday, and 8 AM to 11 PM on Sunday.

ACS shuttle. Complimentary shuttle service will be provided between the Walter E. Washington Convention Center and official ACS hotels, with the exception of hotels within walking distance.

Events & activities

A variety of organizers will host special events during the meeting. Event participation is open to all interested registrants. All nonticketed events require a visible registration badge for entry.

Tickets are sold on a first-come, first-served basis. Ticket sales will close at 6 PM the evening before the event. Some event organizers may offer a limited number of tickets for sale at the door of the events. The deadline for cancellation and refund requests was July 20.

Locations and times are subject to change. To learn more about these events and to buy tickets or register, visit www.acs.org/wdc17.

Friday, Aug. 18

CHAS Laboratory Waste Management Workshop
8 AM to 5 PM, Walter E. Washington Convention Center, Rooms 208A–B

CHAS Laboratory Safety Workshop: Advanced Concepts
8 AM to 4 PM, Walter E. Washington Convention Center, Room 209A

Saturday, Aug. 19

CHAS Workshop: How To Be a More Effective Chemical Hygiene Officer
8 AM to 5 PM, Walter E. Washington Convention Center, Rooms 208A–B

CHAS Workshop: Reactive Chemical Management for Laboratories & Pilot Plants
8 AM to 5 PM, Walter E. Washington Convention Center, Room 209A

Presidental Outreach Event: Exploring Our World through Chemistry
Noon to 4 PM, American Chemical Society, 1155 16th St. N.W.

COACh Reception
5 to 7 PM, Renaissance Washington DC Downtown, Meeting Room 16

Sunday, Aug. 20

Career Pathways I
7:30 AM to 5:30 PM, Westin Washington DC City Center, Section A

Career Pathways II
8 AM to 5:30 PM, Westin Washington DC City Center, Section B

Career Pathways III
8 AM to 5 PM, Westin Washington DC City Center, Section C

Undergraduate Hospitality Center
8:30 AM to 5 PM, Grand Hyatt Washington, Independence Ballroom A

Graduate School Reality Check, Part I: Getting In
10:30 to 11:45 AM, Grand Hyatt Washington, Farragut Square/Lafayette Park

Graduate School Reality Check, Part II: You’re In—Now What?
11:45 AM to 1 PM, Grand Hyatt Washington, Farragut Square/Lafayette Park

ACS Board Luncheon & Meeting
11:45 AM to 1 PM, Walter E. Washington Convention Center, Ballrooms A-B

CHED High School/College Interface Luncheon/SE-01/$45
(All teachers receive ticket with registration.)
Noon to 1 PM, Grand Hyatt Washington, Independence D-E

Networking Basics for Students
1 to 2:30 PM, Grand Hyatt Washington, Farragut Square/Lafayette Park

Networking Social with Graduate School & Recruiters
2 to 5 PM, Walter E. Washington Convention Center, Hall C

Chemistry’s Impact on the Global Economy Plenary Session
3 to 6 PM, Walter E. Washington Convention Center, Ballrooms A-B

Discoveries Using Flow: Drug Development & Beyond
3:30 to 6 PM, Walter E. Washington Convention Center, Room 103A

IAC Networking Globally: Diplomacy & Science/SE-02/no charge
4 to 5:30 PM, Marriott Marquis Washington DC, Chinatown

Director-at-Large Town Hall Meeting
4:30 to 5:30 PM, Marriott Marquis Washington DC, Marquis Ballroom, Salons 1-3

Grady-Stack Award Reception Honoring Thomas Hager
4:45 to 6 PM, Walter E. Washington Convention Center, South Prefunction

AGFD Poster Session
5 to 7 PM, Walter E. Washington Convention Center, Hall C

Diversity Reception
5 to 7 PM, Marriott Marquis Washington DC, Independence A-C

For up-to-date event listings, visit
www.acs.org/wdc17

On-site program book no longer free

The on-site program book is available for $20. In response to numerous requests, the author index will be included in the printed program booklet. Satellite registration and on-site program purchase/pickup will be located at the Marriott Marquis Washington DC and Grand Hyatt Washington hotels. Credit cards, debit cards, and checks will be accepted at these locations.

In support of ACS’s sustainability efforts, we encourage our meeting attendees to download the ACS Washington, D.C., mobile application or access the ACS Washington, D.C., digital meeting program with author index in early August. These digital options will provide quick access to the full technical program, along with special features so you can easily build your schedule.
<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>UW-Madison Alumni &amp; Friends Reception</td>
<td>5 to 7 PM</td>
<td>Walter E. Washington Convention Center, Room 146C</td>
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<tr>
<td>CHED Social Reception</td>
<td>5:30 to 7 PM</td>
<td>Walter E. Washington Convention Center, Room 207A</td>
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<tr>
<td>ACS PRF/Research Corps Reception</td>
<td>5:30 to 7:30 PM</td>
<td>Marriott Marquis Washington DC, Tulip</td>
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<tr>
<td>INOR Poster Session</td>
<td>5:30 to 7:30 PM</td>
<td>Walter E. Washington Convention Center, Hall D</td>
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<tr>
<td>International Welcome Reception/SE-03/no charge</td>
<td>5:30 to 7:30 PM</td>
<td>Marriott Marquis Washington DC, Independence D–H</td>
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<tr>
<td>ORGN Poster Session</td>
<td>5:30 to 7:30 PM</td>
<td>Walter E. Washington Convention Center, Hall D</td>
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<tr>
<td>COLL Social Hour/Poster Session</td>
<td>5:30 to 7:30 PM</td>
<td>Walter E. Washington Convention Center, Halls A–B</td>
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<tr>
<td>Gordon Hammes Award Lecture Reception</td>
<td>5:45 to 6:45 PM</td>
<td>Walter E. Washington Convention Center, Room 145B</td>
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<td>District II Councilor Caucus</td>
<td>6 to 7 PM</td>
<td>Marriott Marquis Washington DC, Marquis Ballroom, Salon 10</td>
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<td>District III Councilor Caucus</td>
<td>6 to 7 PM</td>
<td>Marriott Marquis Washington DC, Marquis Ballroom Salon 12</td>
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<td>District IV Councilor Caucus</td>
<td>6 to 7 PM</td>
<td>Marriott Marquis Washington DC, Marquis Ballroom Salon 13</td>
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<td>District V Councilor Caucus</td>
<td>6 to 7 PM</td>
<td>Marriott Marquis Washington DC, Marquis Ballroom Salon 14</td>
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<td>District VI Councilor Caucus</td>
<td>6 to 7 PM</td>
<td>Marriott Marquis Washington DC, Marquis Ballroom Salon 15</td>
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<td>CARB General Posters</td>
<td>6 to 8 PM</td>
<td>Walter E. Washington Convention Center, Hall D</td>
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<tr>
<td>SCHB Poster Session</td>
<td>6 to 8 PM</td>
<td>Walter E. Washington Convention Center, Halls A–B</td>
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<tr>
<td>Attendee Welcome Reception</td>
<td>6 to 8:30 PM</td>
<td>Walter E. Washington Convention Center, Halls A–B</td>
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<tr>
<td>CINF Welcoming Reception &amp; Poster Session</td>
<td>6:30 to 8:30 PM</td>
<td>Grand Hyatt Washington, Farragut Square/Lafayette Park</td>
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<tr>
<td>Heroes of Chemistry Awards/SE-14/$130</td>
<td>6:30 to 10 PM</td>
<td>JW Marriott Washington DC, Grand Ballroom</td>
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<tr>
<td>Analytical Division Poster Session</td>
<td>7 to 9 PM</td>
<td>Walter E. Washington Convention Center, Hall D</td>
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<tr>
<td>CELL General Posters</td>
<td>7 to 9 PM</td>
<td>Walter E. Washington Convention Center, Hall D</td>
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<tr>
<td>MEDI Poster Session</td>
<td>7 to 9 PM</td>
<td>Walter E. Washington Convention Center, Hall E</td>
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<tr>
<td>Chemistry Rocks! Concert: Celebrating 30 Years of National Chemistry Week</td>
<td>7:30 to 9 PM</td>
<td>Marriott Marquis Washington DC, Independence D–H</td>
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<tr>
<td>CHED Poster Session</td>
<td>8 to 10 PM</td>
<td>Walter E. Washington Convention Center, Hall D</td>
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**Monday, Aug. 21**

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<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>YCC Member Insurance 5K Fun Run/SE-04/$30 (regular)/SE-05/$15 (student)</td>
<td>6:45 to 8 AM</td>
<td>Walter E. Washington Convention Center</td>
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<tr>
<td>WCC Women in the Chemical Enterprise (WICE) Breakfast/SE-06/$40 (regular)/SE-07/$20 (student)</td>
<td>7:30 to 9 AM</td>
<td>Marriott Marquis Washington DC, Independence E</td>
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**Career Pathways I**
7:30 AM to 5:30 PM, Westin Washington DC City Center, Section A

**Career Pathways II**
8 AM to 5:30 PM, Westin Washington DC City Center, Section B

**Career Pathways III**
8 AM to 5 PM, The Westin Washington DC City Center, Section C

**Undergraduate Hospitality Center**
8:30 to 10:30 AM, Grand Hyatt Washington, Independence Ballroom A

**Guinness World Event**
9 AM to noon, Walter E. Washington Convention Center, Ballrooms A–B

**Illuminating Your Insights with Wiley Spectra Libraries**
9:30 AM to noon, Walter E. Washington Convention Center, Exhibit Hall B, Workshop Room 1

**Teaching Laboratory Safety in the Undergraduate Chemistry Curriculum**
9:30 AM to noon, Walter E. Washington Convention Center, Exhibit Hall B, Workshop Room 2

**30-Minute Workflow Innovations**
9:30 AM to noon, Walter E. Washington Convention Center, Exhibit Hall B, Workshop Room 2

**ACS Women Chemists of Color Networking Event/SE-08/no charge**
10 to 11:30 AM, Marriott Marquis Washington DC, Scarlet Oak

**Caffeination Station**
10:30 to 11:30 AM, Grand Hyatt Washington, Independence Ballroom A

**Career Center Session**
11 AM to noon, Grand Hyatt Washington, Farragut Square/Lafayette Park

**Committee on Minority Affairs Luncheon/SE-09/$50 (regular)/SE-10/$25 (student)**
11:30 AM to 1:30 PM, Marriott Marquis Washington DC, Independence A–D

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**MEETINGS FINAL PROGRAM**

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**CEN.DIGITAL MEETING PROGRAM AVAILABLE AT cenm.ag/dc2017**

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**MEETING INFO ON THE WEB**

Registration, housing, technical programming, special events, participating exhibitors, and other meeting details are available at www.acs.org/wdc17.
Tuesday, Aug. 22

Senior Chemists Breakfast/SE-17/$20
7:30 to 9:30 AM, Marriott Marquis Washington DC, Independence E–H

University of Minnesota Alumni & Friends Breakfast/SE-28/$5.00
7:30 to 9:30 AM, Renaissance Washington DC Downtown, Mt. Vernon Square A

Career Pathways I
7:30 to 5:30 PM, Westin Washington DC City Center, Section A

Fostering Innovation
8 AM to noon, Westin Washington DC City Center, Monticello East

National Science Foundation at the ACS Meeting: Meet the Federal Grant Funders & Speed Coaching with Program Officers
8 AM to 5 PM, Walter E. Washington Convention Center, Ballroom C

Career Pathways II
8 AM to 5:30 PM, Westin Washington DC City Center, Section B

Banquet Dinner/SE-13/$40
6:30 to 9:30 PM, Tony Cheng’s Seafood Restaurant, 619 H St. N.W.

ACS Graduate & Postdoctoral Scholars Reception/SE-15/no charge
7 to 8:30 PM, Walter E. Washington Convention Center, Ballroom C

Finding Balance between Work & Life/ Mixer for Younger Chemists/SE-16/no charge
7 to 8:30 PM, Baby Wale, 1124 9th St. N.W.

Sci-Mix Interdivisional Poster Session (Drink ticket with registration)
8 to 10 PM, Walter E. Washington Convention Center, Halls D–E
Accelerating Organic Synthesis without Microwaves
12:30 to 3 PM, Walter E. Washington Convention Center, Room 103A
Sterling Hendricks Reception (AGRO/AGFD)
1 to 2 PM, Renaissance Washington DC Downtown, Congress Ballroom C

Leading without Authority
1 to 5 PM, Westin Washington DC City Center, Monticello East

Selecting the Correct Column for Better Chromatography
1:45 to 2:45 PM, Walter E. Washington Convention Center, Exhibit Hall B, Workshop Room 2

Division Officers & Councilors Caucus (DOC/DCC)
4 to 5:30 PM, Walter E. Washington Convention Center, Room 204C

Analytical Division Reception/SE-22/$25 (regular)/SE-23/$5.00 (student)
5 to 7 PM, Grand Hyatt Washington, Lafayette Park

HIST “No Belles” Theater Performance
5 to 7 PM, Grand Hyatt Washington, Constitution Ballroom B

University of Maryland, College Park, Alumni & Friends Social Hour
5 to 7 PM, Grand Hyatt Washington, Penn Quarter A

AGRO Blues-N-Brews
5:15 to 6:30 PM, Renaissance Washington DC Downtown, Congress Ballroom C

Division Officers & Councilors Caucus (DOC/DCC) Reception
5:30 to 6:30 PM, Walter E. Washington Convention Center, Rooms 203A-B

District I Councilor Caucus
5:30 to 7 PM, Marriott Marquis Washington DC, Magnolia

AGRO Presidential LGBTQ & Allies Reception
5:30 to 7:30 PM, W Washington DC, Altitude

INOR Poster Session
5:30 to 7:30 PM, Walter E. Washington Convention Center, Hall D

ORGN Poster Session
5:30 to 7:30 PM, Walter E. Washington Convention Center, Hall D

MEDI Hall of Fame
5:30 to 7:30 PM, Walter E. Washington Convention Center, Rooms 150A–B

ENVR Division Reception/SE-25/$20
6 to 7:30 PM, Pennsylvania 6, 1350 I St. N.W.

CATL Poster Session
6 to 8 PM, Walter E. Washington Convention Center, Hall D

COMP Poster Session
6 to 8 PM, Walter E. Washington Convention Center, Hall C

I&EC General Posters
6 to 8 PM, Walter E. Washington Convention Center, Hall D

POLY/PMSE Poster Session
6 to 8 PM, Walter E. Washington Convention Center, Hall E

Herman Skolnik Award Reception Honoring David Winkler
6:30 to 8:30 PM, Grand Hyatt Washington, Independence Ballroom A

ENFL Division Dinner/SE-24/$60
6:30 to 9 PM, Acadiana, 901 New York Ave. N.W.

Journey to Mars Reception/SE-27/$60 (members)/SE-27/$110 (nonmembers)/SE-27/$10 (students)
6:30 to 10:30 PM, National Air & Space Museum, Independence Ave. and 6th St. S.W.

TOXI General Poster Session Dinner
6:30 to 10:30 PM, Walter E. Washington Convention Center, Ballroom C

19th Annual ChemLuminary Awards
9 to 10 PM, JW Marriott Washington DC, Grand Ballroom

19th Annual ChemLuminary Awards After-Party
10 PM to midnight, JW Marriott Washington DC, Capitol Ballroom

Wednesday, August 23

Council Meeting Breakfast
7 to 8 AM, Marriott Marquis Washington DC, Marquis Ballroom, Salons 1–6

Career Pathways I
7:30 AM to 5:30 PM, Westin Washington DC City Center, Section A

Council Meeting
8 AM to 1 PM, Marriott Marquis Washington DC, Marquis Ballroom, Salons 1–6

Career Pathways II
8 AM to 5:30 PM, Westin Washington DC City Center, Section B

Career Pathways III
8 AM to 5 PM, Westin Washington DC City Center, Section C

AGRO Poster Session
Noon to 2 PM, Walter E. Washington Convention Center, Hall D

Structure-Based Drug Design & Ligand Modification
3:30 to 6 PM, Walter E. Washington Convention Center, Room 103A

POLY/PMSE Awards Session
5:30 to 8 PM, Marriott Marquis Washington DC, Marquis Ballroom, Salon 6

AGRO Awards Social
6 to 8 PM, Renaissance Washington DC Downtown, Congress Ballroom C

ENVR General Posters
6 to 8 PM, Walter E. Washington Convention Center, Hall E

PHYS Poster Session
6 to 8 PM, Walter E. Washington Convention Center, Hall D

19th Annual ChemLuminary Awards Poster Session & Reception
8 to 9 PM, JW Marriott Washington DC, Capitol Ballroom

MEDI/ORGN Joint Poster Session
7 to 11 PM, Walter E. Washington Convention Center, Hall E

GEOC General Poster Session
8 to 10 PM, Walter E. Washington Convention Center, Hall D
Chemistry's Impact on the Global Economy

Thematic Program organized by Nancy B. Jackson, Retired, Sandia National Laboratories

Plenary Session
Sunday, August 20, 2017 3:00 – 6:00 PM
Walter E. Washington Convention Center, Ballroom A&B

Moderated by Thomas M. Connelly, Jr., Executive Director and CEO of the American Chemical Society

Dr. Chuck Kahle
Dr. Chuck Kahle is the former Chief Technology Officer and Vice President of coatings research and development for PPG Industries. His responsibilities included product development globally, administration of a $500 million annual R&D budget and delivery of products that drove profitable growth from laboratories in the Americas, Europe, and Asia.

Chemistry's Impact on the Global Economy
Chemistry contributes to many sectors of the global economy - agriculture, pharma, commodity chemicals, basic materials and energy, to name a few. Dr. Kahle will examine the key dimensions of the industrial chemistry enterprise, and its trajectory, in the US, and beyond. Factors that are determining the growth rate of the enterprise will be explored, such as the rate of technology innovation, and the increasing emphasis on mergers and acquisitions within the industry. Emphasis will be given to the role of innovation in the enterprise, including ideas on how to accelerate the rate of chemistry innovation and how to improve success rates for innovations through stronger business cases and better market insights.

Prof. Joseph DeSimone
Prof. Joseph M. DeSimone is the Chancellor's Eminent Professor of Chemistry at the University of North Carolina at Chapel Hill, and William R. Kenan, Jr. Distinguished Professor of Chemical Engineering at North Carolina State University and of Chemistry at UNC.

Digital Light Synthesis to Drive Additive Manufacturing: Convergence of Hardware, Software and Molecular Science
This lecture will describe a new advance in additive manufacturing, referred to as Digital Light Synthesis, which is rapid, uses materials that have the requisite properties to yield final parts, and is economically competitive. Our approach promises to advance the industry beyond basic prototyping, which is what 3D printing has primarily been limited to, to truly enable 3D manufacturing.
### Exposition

**SEE WHAT’S NEW INSIDE THE EXPOSITION.** Visit the ACS National Exposition at the Walter E. Washington Convention Center, Halls A–B, from Sunday, Aug. 20, through Tuesday, Aug. 22. 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, software, and an array of chromatographic, lab, and safety equipment. Technical personnel will give demonstrations, answer questions, and discuss your needs and interests. 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.

Visit the revamped ACS Career Fair where you’ll meet recruiters from top employers. Create an online profile and upload your résumé to our database, where recruiters can schedule in-person interviews with you. While at the Career Fair, network with potential employers and drop off your résumé, attend Career Pathways workshops, and meet with ACS Career Consultants.

**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/wdc17 to learn more about exhibiting companies and to download product information.

**Free exhibitor workshops.** Free workshops will be hosted by exhibitors on the exposition floor and in private rooms inside the Walter E. Washington 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. Exhibitor workshop registrations are available at www.acs.org/wdc17.

**Special events.** Join us for several ACS Divisions poster sessions on the expo floor. Don’t forget to visit us on Sunday from 6 to 8:30 PM for the Attendee Welcome Reception. Have an afternoon break while meeting the ACS president-elect candidates inside the exposition on Monday from 1 to 3 PM. Take another afternoon break on Tuesday from 3 to 5 PM and visit the exhibitors before the exposition closes.

**Internet & technology.** Use free internet access and leave messages for one another at the Meeting Mail terminals located throughout the meeting and inside the exposition. Also, enjoy free Wi-Fi service at the Walter E. Washington 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 $60. Students with school identification can obtain an expo-only badge for $30. Registration can be handled online, by mail, or in person at ACS attendee registration at the Walter E. Washington Convention Center.

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**Exhibitor workshops**

- **Sunday, Aug. 20**

**Discoveries Using Flow: Drug Development & Beyond.** *Sponsor:* ThalesNano Nanotechnology, 3:30 to 6 PM, Walter E. Washington Convention Center, Room 103A. Many faculty and lab managers at undergraduate institutions often find it difficult to incorporate laboratory safety throughout their courses. Join us as we discuss how to integrate Flinn Scientific’s new, engaging online student laboratory safety course and other valuable safety resources into your curriculum, and learn how these resources can be used to build a positive safety culture in your department and school. Presented by Flinn Scientific staff scientist Mike Marvel.

- **Monday, Aug. 21**


**Teaching Laboratory Safety in the Undergraduate Chemistry Curriculum.** *Sponsor:* Flinn Scientific, 9:30 AM to noon, Walter E. Washington Convention Center, Room 103A. Many faculty and lab managers at undergraduate institutions often find it difficult to incorporate laboratory safety throughout their courses. Join us as we discuss how to integrate Flinn Scientific’s new, engaging online student laboratory safety course and other valuable safety resources into your curriculum, and learn how these resources can be used to build a positive safety culture in your department and school. Presented by Flinn Scientific staff scientist Mike Marvel.

**30-Minute Workflow Innovations.** *Sponsor:* Agilent Technologies, 9:30 AM to noon, Walter E. Washington Convention Center, Exhibit Hall B, Workshop Room 2. Join Agilent Technologies as we explore optimizing workflows in 30-minute increments. Sessions will vary. Stop by Agilent Booth #911 for details.

**Benchtop NMR: Applications in Industry & Academia.** *Sponsor:* Magritek, 12:30 to 3 PM, Walter E. Washington Convention Center, Exhibit Hall B, Workshop Room 2. Benchtop NMR is a revolutionary technology that provides convenient, high-throughput NMR analysis at a fraction of the cost of traditional high-field NMR systems. The small footprint of the maintenance-free instrument means it can be placed on the bench in the lab right next to where students, researchers, and lab technicians need it. Thanks to the exceptional sensitivity and advanced capabilities of these instruments, low-field NMR can now be used for routine sample identification and purity analysis, molecular structure elucidation and confirmation, and many other real-life uses. This workshop presents practical applications of benchtop NMR systems.
NMR within industry, research labs, and academic education.

**NMR as a Quantitative Method & What Can NMR Do for the Chemist?**  
**Sponsor:** Bruker, 12:30 to 3 PM, Walter E. Washington Convention Center, Room 103A.  
**Part I: NMR is a Quantitative Method!**  
Introduction to NMR as a quantitative method. Topics will include the following:  
- A bit of theory: Why is NMR quantitative?  
- Practical aspects of quantitative NMR: What do you need to worry about?  
- Internal versus external referencing: pros and cons of each.  
- Advantages and pitfalls: When and where can it go wrong?  
**Part II: What Can NMR Do for the Chemist?**  
Introduction to experiments beyond 1-D proton and carbon spectra. Topics will include the following:  
- Two-dimensional experiments commonly used for structure verification and elucidation, such as COSY, TOCSY, HSQC, and HMBC.  
- Examination of NMR active nuclei that might be of interest to the inorganic chemist and important things to consider when running these experiments.  
- Brief introduction to magic-angle spinning (HR-MAS and MAS) methods.  
- Quick look into the possibilities of triple resonance biomolecular NMR.

**Tuesday, Aug. 22**

**Mass Spectrometry for Chemists: Direct Analysis of TLC Plates (Solids & Gases).**  
**Sponsor:** Advion, 9:30 AM to noon, Walter E. Washington Convention Center, Exhibit Hall A, Workshop Room 4. TLC/MS, the atmospheric liquids and solids probe (ASAP), and the volatile APCI source provide direct analysis without sample preparation, even for air-sensitive compounds. With the daily need to analyze a variety of samples, these techniques are indispensable in a busy lab. Learn how a single instrument can be adapted to each of these sample requirements and rapidly changed to accommodate back-to-back assays. Listen to users in the field speak about the innovative sample inlets that have cut down on sample prep and streamlined their everyday workflow.

**Chromatographers, Join the Mass Movement Toward Mass Spectrometry!**  
**Sponsor:** Thermo Fisher Scientific, 12:45 to 1:45 PM, Walter E. Washington Convention Center, Exhibit Hall B, Workshop Room 2. Hear about our latest addition to the Thermo Fisher Scientific mass spectrometry family: the Thermo Scientific ISQ EC single quadrupole mass spectrometer, which is making mass spectrometry available to all chromatographers. Learn about its advanced dual-role design that provides exceptional low-molecular-weight performance with LC-MS and IC-MS.

**Selecting the Correct Column for Better Chromatography.**  
**Sponsor:** Thermo Fisher Scientific, 1:45 to 2:45 PM, Walter E. Washington Convention Center, Exhibit Hall B, Workshop Room 2. Having the right column for your application is critical to obtaining the analytical results and throughput you need. Discover how to simplify your choice of the correct phase, particle size, and column dimensions, as well as how these choices impact your analytical and workflow needs.

**Research in Germany Science Lunch.**  
**Sponsor:** Research in Germany, 12:30 to 3 PM, Walter E. Washington Convention Center, Exhibit Hall A, Workshop Room 4. Funding opportunities for students and researchers planning to study or research in Germany. How to plan your study or research stay in Germany and how to set up collaborations with Germany.

**Rapid Materials Identification & Reverse Engineering Using Raman Spectroscopy.**  
**Sponsor:** Bruker, 12:30 to 3 PM, Walter E. Washington Convention Center, Exhibit Hall B, Workshop Room 1. The latest advances in Raman instrumentation and applications will be reviewed in this seminar with a thorough discussion of the following topics:  
- Materials identification.  
- Additives and contaminations.  
- Defects analysis using Raman microscopy.  
- Chemical imaging and depth profiling.

Examples of applications will include the classification of polymers, identification of layers in multilayer polymer films, and tablet imaging. The seminar will include live demonstration of the new Bruker Bravo handheld Raman spectrometer and a hands-on session. Attendees may bring their samples for analysis.

**Accelerating Organic Synthesis without Microwaves.**  
**Sponsor:** Anton Parr, 12:30 to 3 PM, Walter E. Washington Convention Center, Room 103A. Organic chemistry and performing chemical reactions are key components of the educational process for future synthetic chemists. However, many reactions when run on a hot plate or Bunsen burner at ambient pressures require overnight or even longer reaction times, preventing them from being incorporated into a lab curriculum. More recently, synthesis reactors, operating at elevated temperatures and pressures, have been established as a reliable method for notably accelerating chemical reactions. The reaction time can often be reduced from overnight when using a hot plate to only minutes when using a synthesis reactor. This substantial reduction in the reaction time enables a wide range of reactions to be completed during a normal educational laboratory session. This in-depth presentation by professor Oliver Kappe explores the development of both microwave- and nonmicrowave-based synthetic reactors and discusses their implementation and use in both educational and R&D settings.

**Wednesday, Aug. 23**

**Structure-Based Drug Design & Ligand Modification.**  
**Sponsor:** Chemical Computing Group, 3:30 to 6 PM, Walter E. Washington Convention Center, Room 103A. The course covers MOE applications for interactive, structure-based design. Examples include active site visualization, protein-ligand contact analysis, and ligand modification and optimization in the receptor pocket. Conformational searching and analysis of the ligand to assess ligand flexibility will be discussed. A protocol for aligning and superposing protein complexes in the context of protein selectivity will be studied.
EXHIBITORS

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Visit the Online ACS National Exposition at www.acs.org/wdc17 to download the updated exhibitor list and access product information.

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Lubrizol 2349
Nanjing University 2444
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ACS Committee on Chemical Health & Safety, P.O. Box 152329, San Diego, CA, United States 92195, 619-990-4908, Internet: www.acs.org/safety The ACS Committee on Chemical Safety and the Division of Chemical Health and Safety provide this opportunity for you to learn more about chemical safety within the ACS and to have chemical safety experts answer your questions. 1038

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Optibrium Ltd., 7221 Cambridge Research Park, Cambridge CB25 9TL, +44 1223 815907, e-mail:info@optibrium.com, Internet: www.optibrium.com. Systems is a sophisticated, software solutions for small molecule design, optimisation and data analysis, including: StarDropTM, a comprehensive environment that guides the design and selection of high quality compounds; SentraTM, a powerful and easy-to-use desktop tool for chemistry data visualisation; and Asteris, an iPadTM app for creative compound exploration and design.

OriginLab Corp., One Roundhouse Plaza, Suite 303, Northampton, MA, United States 01060, 413-585-0126, e-mail: sales@originlab.com. OriginLab.com is an industry-leading supplier of data analysis software for science and engineering. Features include: customizable 2D, 3D, statistical and specialized graphs, batch plotting, curve fitting, peak analysis, signal processing, optimisation and data analysis, including: StarDropTM, a powerful and easy-to-use desktop tool for chemistry data visualisation; and Asteris, an iPadTM app for creative compound exploration and design.

Oxford Instruments, 1417

Pace Analytical, 2014 Oxford Lasers, 2 Shaker Road, Unit B104, Shirley, MA, United States 01464, 978-425-0755, fax: 978-425-4487, Internet: www.oxfordlasers.com. One of the most successful spin offs from Oxford University in 1977, Oxford Lasers Imaging Division offers laser systems, system rental, R&D and technical support for high speed imaging solutions and has significant experience within the field of spray characterisation, providing information on droplet size, droplet velocity and droplet shape.

Oxford University Press, 198 Madison Avenue, New York, NY, United States 10016, (800) 451-7556, fax: (919) 677-1305, e-mail:custserv.us@oup.com, Internet: www.oup.com. 914-244-4950, Internet: www.oxford.com. 913-786-8095, e-mail:sales@pasco.com, Internet: www.pascotech.com. PASC0 scientific, 1101 Foothills Boulevard, Ross-


Pfeiffer Vacuum Inc., 24 Trafalgar Square, Nashua, NH, United States 03063, 603-578-6500, fax: 603-578-6530, Internet: www.pfeiffer-vacuum.com. Visit Pfeiffer Vacuum at booth 700 for to see the latest advancements in vacuum technology including high and base pressure pumps, leak detectors, gas analysis and chambers.

Pharmablock USA, Inc., 725 San Aleso Avenue, Suite 1, Sunnyvale, CA, United States 94085, 408-921-9969, Internet: www.pharmablock.com.

PharmAgra Labs, Inc., 158 McLean Road, Bre-

Pall Corporation, 3100 Main Street, Port Washington, NY, United States 11050, 516-943-3100, fax: 516-943-3135, Internet: www.pall.com. Pall Corporation is a world leader in the filtration, separation, purification and monitoring of liquids, gases and solids.

Park Systems, Inc., 3040 Ocotl Ct, Santa Clara, CA, United States 95054, 408-986-1110, fax: 408-986-1199, e-mail:ps@parkfm.com, Internet: www.parkfm.com. Park Systems is a world leading manufacturer of atomic force microscopy (AFM) systems with complete range of products for researchers and engineers in biological science, materials research, semiconductor and storage industries. Park’s AFM provides the highest data accuracy, superior productivity, and lowest operating cost. Please visit parkfm.com for more information.


Parr Instrument Co., 211 3rd Street, Moline, IL, United States 61265, 309-762-7716, fax: 309-762-9453, e-mail:parr@parrinst.com, Internet: www.parrinst.com. PARR Instrument Company designs and manufactures Laboratory Reactors and Pressure Vessels, stirred and unstirred, used at elevated temperatures and pressures. The AccuSizer SPO5 particle analyzers. We’ve grown with the AccuSizer FX and FX Nano, high concentration analyzers that size particles over a wide dynamic range starting at 0.1 microns and at concentrations exceeding 10 million particles/mL.

PASCO scientific, 1441

Paraza Pharma Inc., 2525 Marie-Curie Avenue, Montreal, Quebec, Canada H4S 2E1, 617-218-9459, Internet: www.parazapharma.com. Paraza Pharma Inc. is a preclinical pharmaceutical discovery company with proven expertise in lead identification and optimization leading to drug candidates. Fully integrative capabilities include medicinal chemistry, high throughput screening, high throughput biosays, DMPK (in vitro/in vivo non-human species) and scale-up (1-500 g). Based in Montreal and a highly experienced staff from large pharmaceutical companies.

New Era Enterprises, P.O. Box 747, Vineland, NJ, United States 08362-0747, 800-821-4657, fax: 856-697-8277, Internet: www.newera-spectro.com. NMR Sample Tubes from micro to large diameter NMR screw thread, tip-on pressure valve and non-glass sample cells; capillary systems for very limited sample, RDC sample prep and measurement supplies for both stretch and compression methods; Micro Pipet for filling NMR capillaries; 5mm NMR Sample Reaction System; NMR Sampling Accessories; EPR/ESR Quartz Sample Tubes. TD NMR Sample Tubes for bench-top instruments and Food sampling glassware. Stable Isotope Compounds of Carbon, Oxygen, Nitrogen and Deuterium.

NIST (Center for Nanoscale Science & Technolog-
over 20 years of active metal and inert atmosphere chemical experience. With a reputation for creating reliable organocarb and Grignard reagents, fine chemicals, polymers, and monomers as well as custom synthesis and scale-up capabilities Rieke Metals is your partner for research through commercialization.


Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, United Kingdom CB4 OWF, 44-1223-432-378, fax: 44-1223-426-017, e-mail:sales@rsc.org, Internet: www.rsc.org

Schrödinger, Inc., 101 SW Main Street, Suite 1300, Portland, OR, United States 97204, Internet: www.schrodinger.com. Come see our full suite of drug discovery solutions, including the industry leading Glide for flexible ligand docking, as well as our ligand-based tools. We will also exhibit our Materials Suite, featuring a diverse set of tools for optimizing structure, reactivity, and properties of chemical systems. Hands-on demos are available.

Science China Press, 16 Donghuangchengan North Road, Beijing, China 10017, 848-565-8833, fax: 8-810-1010, Internet: www.springer.sciencechina.com/publisher/scp/journal/SCC?slug=OverviewFoundedIn1950, Science China Press is one of the most important professional academic publishers in China which is under the command of the Chinese Academy of Sciences. It publishes 18 popular and prestigious journals, which have made a great contribution to the academic communication and development.

SCIENCE/AAAS, 1200 New York Avenue, NW, Washington, DC, United States 20005, 202-326-3417, Internet: www.asb.org, e-mail: membership@aaas.org, Internet: http://www.aaas.org

Sciex, 500 Old Connecticut Path, Framingham, MA, United States 01701, 650.631.2625, Internet: www.sciex.com

Scion Instruments, 3019 Alvin Devane Blvd., Suite 120, Austin, TX, United States 78741, 703-605-2807, Internet: scioninstruments.com

Scitegrity, Discovery Park, Ramsgate Road, Kent, United Kingdom CT13 9ND, Internet: http://www.scitegrity.co.uk/ Our system, Controlled Substance Compliance, is used to determine if a chemical falls under controlled drug legislation in over 20 countries (inc US, China and EU countries), based purely on its structure. Also covers ethers, esters, salts, amino acids, basic and acidic, sugars, carbohydrates, peptides, organic acids and other organic compounds. Can easily process millions of compounds.

Semicem, 12456 W, 62nd Terrace, Suite D, Shawnee, KS, United States 66216, 913-268-3271, 913-268-3445, e-mail: info@semicem.com, Internet: www.semicem.com Semicem features AMPAC™ and CODESSA™ AMPAC™ is a registered trademark of Semicem, Inc., allowing an industry leading graphical user interface (GUI) that builds molecules and offers full visualization of results. CODESSA™ is an advanced quantitative structure/activity relationship (QSAR) program that ties information from AM-PAC™ and other QM programs with experimental data.

Shimadzu Scientific Instruments Inc., 3710 Riverwood Drive, Columbia, MD, United States 21040, 800-477-1227, fax: 410-381-1222, Internet: www.shimadzu.com. Shimadzu is a leading manufacturer of scientific instrumentation, including chromatography, spectroscopy, FTIR, environmental monitoring, and physical measurement. Markets industries include pharmaceuticals, metals, forensics, educational government, agriculture and petrochemical.


Software for Chemistry & Materials, SCM/TC/FEW, Vrije Universiteit Amsterdam, De Boelelaan 1083, Amsterdam, Netherlands 1081 HV, 31-20-5987626, fax: 31-20-5987629, e-mail: sales@scm.com, Internet: www.scm.com. Scien- toists at SCM are passionate about developing com- putational chemistry work for you. Whether you research spectroscopy, heavy elements, organic electronics, chemical reactions or materials, we have the right tools (DFT, DFTB, ReaxFF, COSMO-RS) in the ADF Modeling Suite 2017. Come by to see the user-friendly graphical interface in action!


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SpiroChem AG, c/o ETH-Zürich, Vla- sim-Prelog-Weg 1, Zurich, Switzerland CH-8093 Zurich, Internet: info@spirochem.ch, 0141 44 1 1089, Internet: www.spirochem.com


StellarNet Inc., 14390 Carlson Circle, Tampa, FL, United States 33626, 813-855-8687, fax: 813-855-0394, e-mail: dpersel@stellemat.us, Internet: www.StellarNet.us. StellarNet provides low cost miniature spectrometer systems and software for industry and academic research, education, and OEM. StellarNet instrumentation is rugged for any environment - lab, process, or field. Applications include absorbance & trans- mission (190-2300nm), fluorimetry, microscopy, optical metrology, colorimetry, LED/Laser/Solar, NIR & Raman (322, 785, 1064). Come See the SpectraWiz!


Supercritical Fluid Technologies, One Innovation Way, Suite 303, Plymouth Meeting, PA, United States 19461-1711, 215-738-3420, fax: 215-738-4320, e-mail:info@supercriticalfluids.com, Internet: www.supercriticalfluids.com
Wyatt Technology is the recognized leader in instrumentation for determining the absolute molar mass, size, charge and interactions of macromolecules and nanoparticles in solution. These tools include: in-line multi-angle static light scattering, high-throughput dynamic light scattering, differential refractometry, electrophoretic mobility, differential viscosity, field flow fractionation and automated composition gradient.

X-Ability Co., Ltd., Ishiwata Building, 3rd Floor, 4-1-5 Hongo, Bunkyo-Ku, Tokyo, Japan 113-0033, +81-3-5800-7731, e-mail: rkoga@x-ability.jp, Internet: x-ability.com

Xenocs SA, 19 rue Francois Blumet, Sassenage, France 38360, +33 (0)4 76 26 98 59, Internet: www.xenocs.com

### 2017 NEW PRODUCT LISTINGS

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<td>Triversa NanoMate, Atmospheric Solids Analysis Probe (ASAP)</td>
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<td>1055</td>
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<td>Athena Enzyme Systems</td>
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<td>Contichrom Cube HPLC, Contichrom Cube LC</td>
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<td>ChemLogic</td>
<td>315</td>
<td>KEMBLOX, Chemirus Inc.</td>
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<tr>
<td>ChemLogic</td>
<td>520</td>
<td>disposable filter funnel, multi-flask reaction kit</td>
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<tr>
<td>Chengdu Asle BioPharmaceuticals, Inc.</td>
<td>726</td>
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<td>ChemLogic</td>
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<td>Benchtop NMR, Spinpoint, NMR Spectrometer, Benchtop NMR Spectrometer</td>
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<tr>
<td>ChemLogic</td>
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<td>Molecular Vista, New Era Enterprises, Booth # 1972 Capillary Electrophoresis, Mercury Analyzers, Microchip-based qPCR, FT-IR/FT-NIR, AAS, Magritek Inc.</td>
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<td>Chrom Sword</td>
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<td>ChromSword DataSystem, ChromSword AutoRobust, ChromSword ReportViewer, ChromSword Offline</td>
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<td>CombiPhos Catalysts, Inc.</td>
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<td>InfoChem GmbH</td>
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<td>Kishida Chemical Co., Ltd.</td>
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<td>Tns(2,2,2-trifluoroethyl) Phosphate, Luknova Inc.</td>
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<td>Luknov Inc.</td>
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<td>Benchtop NMR, Spinpoint, NMR Spectrometer, Benchtop NMR Spectrometer</td>
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<td>Magnetic Inc.</td>
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<td>NanoScope, New Era Enterprises, Booth # 1972 Capillary Electrophoresis, Mercury Analyzers, Microchip-based qPCR, FT-IR/FT-NIR, AAS, Magritek Inc.</td>
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<td>Molecular Vista</td>
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<td>Benchtop NMR, Spinpoint, NMR Spectrometer, Benchtop NMR Spectrometer</td>
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<td>Molecular Vista</td>
<td>322</td>
<td>Molecular Vista, New Era Enterprises, Booth # 1972 Capillary Electrophoresis, Mercury Analyzers, Microchip-based qPCR, FT-IR/FT-NIR, AAS, Magritek Inc.</td>
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<td>Ocean Optics, Inc.</td>
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<td>Ocean Optics, Inc.</td>
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<td>Oceanics, Inc.</td>
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<td>OLS, Inc.</td>
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<td>Park Systems, Inc.</td>
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<td>Showna Denko America Inc.</td>
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<td>Discovery SDT, Affinity IT-6, Discovery TGA, ThalesNano Nanotechnology Inc.</td>
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<td>XEVO TQ-XS, ACQUITY Arc, ACQUITY QDa, Wavefunction, Inc.</td>
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<td>miniDAWN TREFS II, Viscosat II Viscometer, Yamazen Science, Inc.</td>
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- EXPO–14
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A more detailed product listing can be found by visiting the National Exposition at www.acs.org/wdc17. In addition to Meeting Mail stations in the convention center, product categories, along with companies supplying the products, can be searched using this free service.

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<td>Flinn Scientific Inc.</td>
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<td>Wavefunction, Inc.</td>
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<td>Wiley</td>
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### Accessible Products

- AdValue Technology
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- Chengdu Aslee Biopharmaceuticals, Inc.
- Chemliy, LLC
- LABCONCO, Corp.

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- TCI America | 1308 |
- U.S. Naval Research Lab | 1820 |
- US EPA Green Chemistry Program | 1036 |
- WuXi AppTec (Shanghai) Co. Ltd. | 600 |

### Laboratory Equipment & Services

- Ace Glass, Inc. | 1901 |
- Advion | 1401 |
- AGI USA Inc. | 1826 |
- Agilent Technologies | 911 |
- Anasazi Instruments Inc. | 403 |
- Anto Parr USA | 1217 |
- Astyn Ltd. | 1726 |
- Athena Enzyme Systems | 527 |
- Bellent Chemical Co., Ltd. | 1437 |
- Bio-Logic USA, LLC | 1821 |
- Brookhaven Instruments Corp. | 1706 |
- Bruker | 2100, 2101 |
- Chemglass Life Sciences | 1800 |
- ChemLogic | 315 |
- Chemirus Inc. | 520 |
- DLAB Scientific Co.Ltd. | 1702 |
- Ecodyst, Inc. | 1722 |
- Edinburgh Instruments | 1827 |
- Finn Scientific Inc. | 2119 |
- FRITSCH Milling and Sizing | 1608 |
- Gamry Instruments | 1188 |
- GERSTEL Inc. | 1007 |
- Glas-Col | 2120 |
- HarPadar Apparatus | 1627 |
- Heidelberg North America | 1000 |
- Hidra USA, Inc. | 2218 |
- Hiden Analytical Inc. | 1618 |
- HORIBA Scientific | 1725 |
- Horizon Technology Inc. | 321 |
- IKA Works, Inc. | 1301, 1405, 1408 |
- JASCO | 2209 |
- Keysight Technologies (formerly Agilent) | 704 |
- LABCONCO, Corp. | 2208 |
- Luknco Inc. | 325 |
- Lumex Instruments Canada | 1927 |
- Magritek Inc. | 801 |
- Malvern Instruments, Inc. | 1900 |
- MaruZen Co., Ltd. | 1319 |
- MicroAB, Inc. | 927 |
- Molecular Vista | 322 |
- Nanalysis Corp. | 301 |
- New Era Enterprises | 1704 |