DEFINE YOUR VISION

Increasingly, my team is asked to deliver exceptional patient care to a changing patient population—with fewer resources. As a group of passionate caregivers, we were all involved with planning and creating a vision for our laboratory that enabled us to achieve innovative models of care for our patients, daily. With the help of the right partner, we’ll continue to:

- Implement training initiatives across our entire healthcare network
- Leverage daily management and key metrics to facilitate positive change
- Coordinate multiple processing sites efficiently
- Enhance patient care by optimizing laboratory operations

Hear the stories of how laboratories are defining their vision at booth 3612.
**OFFICES & MEETING SERVICES**

**REGISTRATION**
LOCATION: South Exhibit Hall
Saturday 12:00pm-5:00pm
Sunday 8:00am-6:30pm
Monday–Wednesday 7:00am-5:00pm
Thursday 8:00am-1:00pm

**AAC STORE**
LOCATION: South Exhibit Hall
Plan to visit the AAC store to browse some of AAC's bestsellers and AAC merchandise, including t-shirts, wearables and gifts.

AAC Store Hours
Sunday–Wednesday 9:00am-5:00pm
Thursday 9:00am-1:00pm

**HOUSING**
LOCATION: South Exhibit Hall
Representatives from Spargo, AAC's official housing agency, will be available to assist with your hotel accommodations.

**INTERNATIONAL TRADE CENTER**
Location: North Concourse Lobby
The center is staffed by international trade specialists who will help international visitors identify and meet suppliers of products they wish to purchase, either for their own use or as distributors.

**BAGGAGE CHECK**
LOCATION: Bar South, Level 1
Tuesday–Wednesday 7:00am-6:00pm
Thursday 7:00am-2:00pm
Per item: coat check $3, bag or poster $4

**CLINICAL LAB EXPO**
LOCATION: South Hall
Tuesday–Wednesday 9:30am-5:00pm
Thursday 9:30am-1:00pm
Refer to Exhibit Guide or the mobile app for exhibit listings and booth descriptions.

**AAC EDUCATION AND ACCENT/CME**
See page 111 for detailed instructions on obtaining ACCENT/CME credit for attending the meeting and getting a certificate of attendance. This information can also be found at www.aacc.org/AMCredits18. If you have additional questions, visit the AAC booth #2231 or send an email to education@aacc.org.

**AAC HEADQUARTERS OFFICE**
LOCATION: Room N426A
Phone: 312.791.6600
Contact the AACC Office if you have general questions at the meeting.

Also use this number if you have an emergency situation.

**AAC Headquarters Office Hours**
Monday–Wednesday 12:00pm-5:00pm
Saturday 12:00pm-5:00pm
Sunday 8:00am-6:30pm
Monday–Wednesday 7:00am-6:00pm
Thursday 8:00am-4:00pm

**Nursing Room Access** — Visit the AACC Office for access to the designated nursing room facilities on site.

**PRESS ROOM**
LOCATION: N427BC
Phone: 312.791.6623 and 312.791.6624
Sunday 9:00am-5:00pm
Monday 8:00am-8:00pm
Tuesday–Wednesday 8:00am-5:00pm
Thursday 8:00am-1:00pm

Members of the media can register for the Annual Scientific Meeting in the press room, where pre-registered media can pick up their badges and other meeting materials. The press room serves as the coordination point for reporters to set up interviews with participants and is available for exhibitors and journalists who wish to meet away from the exhibit floor and other public areas. Additionally, registered media are welcome to work on stories here.

**MATERIALS**
AACC media kits that include fact sheets and AACC press releases will be available, as well as Expo and conference program books. Phones, WiFi and laptop hookups are available for the press. Free breakfast and lunch are also available for registered press each day of the meeting.

The press room is available to exhibitors to display promotional materials and media kits. However, only registered media may use the rest of the press room, and company and public relations representatives will not be permitted beyond the entryway table after dropping off their materials.

**INTERVIEWS**
Registered media can reserve space in Room N1139 to conduct interviews. Use of this room is by appointment only and subject to availability.

**Press Conferences**
Press conferences take place in Room N427A or N427D. Details of scheduled press conferences are available from the press room. Press conferences are open to all registered journalists.

**DOWNLOAD THE 2018 MOBILE APP**
With hundreds of exhibitors to navigate and dozens of educational sessions to attend, planning your busy days at the 70th AACC Annual Scientific Meeting & Clinical Lab Expo is essential to making the most of this dynamic event. Now you can do all that and more with the FREE 2018 AACC Annual Scientific Meeting & Clinical Lab Expo app. Available for smartphones, tablets and desktops (NEW) from the Apple App Store and on Google Play for Android devices.

**FIRST AID/EMERGENCY**
Emergency Phone Number:
Dial 6060 from any telephone in the convention center. In hotels, dial 0 from any phone.

**PRESS ROOM**
LOCATION: N427BC
Phone: 312.791.6623 and 312.791.6624
Sunday 9:00am-5:00pm
Monday 8:00am-8:00pm
Tuesday–Wednesday 8:00am-5:00pm
Thursday 8:00am-1:00pm

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**PHOTOGRAPHY**
Except for photography specifically authorized by AACC, use of video and photographic equipment is prohibited on the exhibit floor and in the meeting rooms. Photography of poster sessions is permitted only with express permission of the presenting author.
SHUTTLE SCHEDULE

SHUTTLE BUS SERVICE TO MCCORMICK PLACE

<table>
<thead>
<tr>
<th>Date</th>
<th>Service Hours</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturday, July 28</td>
<td>11:30am-5:30pm*</td>
<td>Departures every 20 minutes</td>
</tr>
<tr>
<td></td>
<td>7:00am-10:00am</td>
<td>Departures every 15 minutes</td>
</tr>
<tr>
<td></td>
<td>10:00am-4:00pm</td>
<td>Departures every 30 minutes</td>
</tr>
<tr>
<td></td>
<td>4:00pm-6:30pm*</td>
<td>Departures every 15 minutes</td>
</tr>
<tr>
<td></td>
<td>7:00pm-8:30pm</td>
<td>Departures from Opening Mixer/MPCC to route hotels</td>
</tr>
<tr>
<td>Sunday, July 29</td>
<td>6:00am-10:00am</td>
<td>Departures every 15 minutes</td>
</tr>
<tr>
<td></td>
<td>10:00am-3:30pm</td>
<td>Departures every 30 minutes</td>
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<tr>
<td></td>
<td>3:30pm-6:30pm*</td>
<td>Departures every 15 minutes</td>
</tr>
<tr>
<td>Monday, July 30</td>
<td>6:00am-10:00am</td>
<td>Departures every 15 minutes</td>
</tr>
<tr>
<td></td>
<td>10:00am-3:30pm</td>
<td>Departures every 30 minutes</td>
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<tr>
<td></td>
<td>3:30pm-6:30pm*</td>
<td>Departures every 15 minutes</td>
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<tr>
<td>Tuesday, July 31</td>
<td>6:00am-10:00am</td>
<td>Departures every 15 minutes</td>
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<tr>
<td></td>
<td>10:00am-3:30pm</td>
<td>Departures every 30 minutes</td>
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<td></td>
<td>3:30pm-6:30pm*</td>
<td>Departures every 15 minutes</td>
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<tr>
<td>Wednesday, August 1</td>
<td>6:00am-10:00am</td>
<td>Departures every 15 minutes</td>
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<td></td>
<td>10:00am-3:30pm</td>
<td>Departures every 30 minutes</td>
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<td></td>
<td>3:30pm-6:30pm*</td>
<td>Departures every 15 minutes</td>
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<td>Thursday, August 2</td>
<td>8:00am-10:00am</td>
<td>Departures every 15 minutes</td>
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<td>10:00am-12:00pm</td>
<td>Departures every 30 minutes</td>
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<tr>
<td></td>
<td>12:00pm-3:00pm</td>
<td>Departures every 15 minutes</td>
</tr>
<tr>
<td></td>
<td>3:00pm-6:00pm*</td>
<td>Departures every 30 minutes</td>
</tr>
</tbody>
</table>

* Indicates last time shuttle departs convention center to hotels. Last shuttle departs hotel coming to the center 1 hour prior to this time. Shuttle schedule may vary due to traffic and weather conditions.

If you need to arrange wheelchair-accessible transportation, please call 877.875.2455 at least 12 hours prior to pick-up or see a shuttle supervisor at the convention center.

ROUTES & BOARDING LOCATIONS

HOTELS IN WALKING DISTANCE TO/FROM THE CONVENTION CENTER
Marriott Marquis Chicago
Hyatt Regency McCormick Place

SPECIAL TRANSPORTATION
AAJC Opening Mixer & Division Networking Event Supported by Sekisui Diagnostics LLC — Hyatt Regency McCormick Place, Sunday, July 29
Return transportation from the convention center from 7:00pm–8:15pm, every 15 minutes.

Morning Industry Workshops, Tuesday, July 31, and Wednesday, August 1
Transportation provided from route hotels to the Hyatt Regency McCormick Place and Marriott Marquis Chicago from 6:30am-8:30am, every 15–20 minutes.

<table>
<thead>
<tr>
<th>Route #/Color</th>
<th>Hotel</th>
<th>Boarding Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route #1 — Red</td>
<td>Sheraton Chicago</td>
<td>Water St. across from lobby</td>
</tr>
<tr>
<td>Route #1 — Red</td>
<td>Loews Chicago</td>
<td>Walk to Sheraton Chicago on Water St.</td>
</tr>
<tr>
<td>Route #1 — Red</td>
<td>Embassy Suites Magnificent Mile</td>
<td>Walk to Sheraton Chicago on Water St.</td>
</tr>
<tr>
<td>Route #1 — Red</td>
<td>Intercontinental Magnificent Mile</td>
<td>Illinois St. entrance</td>
</tr>
<tr>
<td>Route #1 — Red</td>
<td>Courtyard Magnificent Mile</td>
<td>Across Ohio at St. Clair St.</td>
</tr>
<tr>
<td>Route #2 — Yellow</td>
<td>Hyatt Regency Chicago</td>
<td>Curbside lobby entrance</td>
</tr>
<tr>
<td>Route #2 — Yellow</td>
<td>Swissotel</td>
<td>Walk to Hyatt Regency on E. Wacker Dr.</td>
</tr>
<tr>
<td>Route #2 — Yellow</td>
<td>Fairmont Hotel</td>
<td>Walk to Hyatt Regency on E. Wacker Dr.</td>
</tr>
<tr>
<td>Route #2 — Yellow</td>
<td>Radisson Blu</td>
<td>Walk to Hyatt Regency on E. Wacker Dr.</td>
</tr>
<tr>
<td>Route #3 — Blue</td>
<td>Hilton Garden Inn Downtown</td>
<td>Lobby entrance</td>
</tr>
<tr>
<td>Route #3 — Blue</td>
<td>Chicago Marriott</td>
<td>Walk to Hilton Garden Inn on Grand Ave.</td>
</tr>
<tr>
<td>Route #3 — Blue</td>
<td>Embassy Suites Chicago Downtown</td>
<td>Walk to Hilton Garden Inn on Grand Ave.</td>
</tr>
<tr>
<td>Route #3 — Blue</td>
<td>Omni Hotel</td>
<td>SW corner of Erie &amp; Rush St.</td>
</tr>
<tr>
<td>Route #4 — Green</td>
<td>Courtyard River North</td>
<td>NW corner of Hubbard &amp; Dearborn St.</td>
</tr>
<tr>
<td>Route #4 — Green</td>
<td>Westin River North</td>
<td>Across N. Clark St. at the driveway</td>
</tr>
<tr>
<td>Route #4 — Green</td>
<td>Renaissance Downtown</td>
<td>Lobby entrance on W. Wacker Dr.</td>
</tr>
<tr>
<td>Route #4 — Green</td>
<td>Cambria Hotel Chicago Loop — Theater District</td>
<td>Walk to Renaissance Downtown on W. Wacker Dr.</td>
</tr>
<tr>
<td>Route #5 — Orange</td>
<td>Hilton Chicago</td>
<td>8th St. entrance</td>
</tr>
<tr>
<td>Hotel</td>
<td>Address</td>
<td>Miles To Convention Center</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>----------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Cambria Chicago Loop — Theater District</td>
<td>32 West Randolph Street</td>
<td>4</td>
</tr>
<tr>
<td>Chicago Marriott Downtown Magnificent Mile</td>
<td>540 North Michigan Avenue</td>
<td>4</td>
</tr>
<tr>
<td>Courtyard by Marriott Chicago Downtown/River North</td>
<td>30 East Hubbard Street</td>
<td>4</td>
</tr>
<tr>
<td>Courtyard by Marriott Magnificent Mile Chicago Downtown</td>
<td>165 East Ontario Street</td>
<td>4</td>
</tr>
<tr>
<td>Embassy Suites Chicago Downtown</td>
<td>600 North State Street</td>
<td>3</td>
</tr>
<tr>
<td>Embassy Suites Chicago Downtown Magnificent Mile</td>
<td>511 North Columbus Drive</td>
<td>5</td>
</tr>
<tr>
<td>Fairmont Chicago</td>
<td>200 North Columbus Drive</td>
<td>3</td>
</tr>
<tr>
<td>Hilton Chicago</td>
<td>720 South Michigan Avenue</td>
<td>2</td>
</tr>
<tr>
<td>Hilton Garden Inn Magnificent Mile</td>
<td>10 East Grand Avenue</td>
<td>4</td>
</tr>
<tr>
<td>Hyatt Regency Chicago</td>
<td>151 East Wacker Drive</td>
<td>3</td>
</tr>
<tr>
<td>Hyatt Regency McCormick Place — Co-Headquarters Hotel</td>
<td>2233 South Martin Luther King Drive</td>
<td>Adjacent</td>
</tr>
<tr>
<td>Intercontinental Chicago Magnificent Mile</td>
<td>505 North Michigan Avenue</td>
<td>3.5</td>
</tr>
<tr>
<td>Loews Chicago</td>
<td>455 North Park Drive</td>
<td>3</td>
</tr>
<tr>
<td>Marriott Marquis Chicago — Co-Headquarters Hotel</td>
<td>2121 South Prairie Avenue</td>
<td>Adjacent</td>
</tr>
<tr>
<td>Radisson Blu Aqua Hotel</td>
<td>221 North Columbus Drive</td>
<td>5</td>
</tr>
<tr>
<td>Renaissance Chicago Downtown</td>
<td>1 West Wacker Drive</td>
<td>3.5</td>
</tr>
<tr>
<td>Sheraton Grand Chicago</td>
<td>301 East North Water Street</td>
<td>3</td>
</tr>
<tr>
<td>Swissotel</td>
<td>323 East Wacker Drive</td>
<td>3</td>
</tr>
<tr>
<td>Westin River North</td>
<td>320 North Dearborn Street</td>
<td>4</td>
</tr>
</tbody>
</table>

**HOTEL INFORMATION**

**Hilton Chicago Address:**

- **Sheraton Grand Chicago**
  - 301 East North Water Street
  - 3
- **Swissotel**
  - 323 East Wacker Drive
  - 3
- **Westin River North**
  - 320 North Dearborn Street
  - 4
- **Courtyard by Marriott Chicago Downtown**
  - 165 East Ontario Street
  - 4
- **Embassy Suites Chicago Downtown Magnificent Mile**
  - 511 North Columbus Drive
  - 5
- **Embassy Suites Chicago Downtown**
  - 600 North State Street
  - 3
- **Hyatt Regency McCormick Place — Co-Headquarters Hotel**
  - 2233 South Martin Luther King Drive
  - Adjacent
- **Intercontinental Chicago Magnificent Mile**
  - 505 North Michigan Avenue
  - 3.5
- **Loews Chicago**
  - 455 North Park Drive
  - 3
- **Marriott Marquis Chicago — Co-Headquarters Hotel**
  - 2121 South Prairie Avenue
  - Adjacent
- **Radisson Blu Aqua Hotel**
  - 221 North Columbus Drive
  - 5
- **Renaissance Chicago Downtown**
  - 1 West Wacker Drive
  - 3.5
- **Sheraton Grand Chicago**
  - 301 East North Water Street
  - 3
- **Swissotel**
  - 323 East Wacker Drive
  - 3
- **Westin River North**
  - 320 North Dearborn Street
  - 4

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- **Sheraton Grand Chicago**
  - 301 East North Water Street
  - 3
- **Swissotel**
  - 323 East Wacker Drive
  - 3
- **Westin River North**
  - 320 North Dearborn Street
  - 4

**Hilton Garden Inn Chicago Downtown Magnificent Mile**

- **Courtyard by Marriott Downtown**
  - 10 East Grand Avenue
  - 4
- **Hyatt Regency Chicago**
  - 151 East Wacker Drive
  - 3
- **Hyatt Regency McCormick Place — Co-Headquarters Hotel**
  - 2233 South Martin Luther King Drive
  - Adjacent
- **Intercontinental Chicago Magnificent Mile**
  - 505 North Michigan Avenue
  - 3.5
- **Loews Chicago**
  - 455 North Park Drive
  - 3
- **Marriott Marquis Chicago — Co-Headquarters Hotel**
  - 2121 South Prairie Avenue
  - Adjacent
- **Radisson Blu Aqua Hotel**
  - 221 North Columbus Drive
  - 5
- **Renaissance Chicago Downtown**
  - 1 West Wacker Drive
  - 3.5
- **Sheraton Grand Chicago**
  - 301 East North Water Street
  - 3
- **Swissotel**
  - 323 East Wacker Drive
  - 3
- **Westin River North**
  - 320 North Dearborn Street
  - 4
2018 SUPPORTERS

Thank you to the supporters of the 70th AACC Annual Scientific Meeting & Clinical Lab Expo.

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As of 5/22/2018
### SATURDAY, JULY 28, 2018

<table>
<thead>
<tr>
<th>TIME</th>
<th>MEETING NAME</th>
<th>HYATT</th>
<th>MARRIOTT</th>
<th>ROOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:00pm–5:30pm</td>
<td>SYCL Workshop</td>
<td>Great Lakes Ballroom A</td>
<td></td>
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<tr>
<td>6:00pm–8:00pm</td>
<td>SYCL Mixer</td>
<td>Great Lakes Ballroom C</td>
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### SUNDAY, JULY 29, 2018

<table>
<thead>
<tr>
<th>TIME</th>
<th>MEETING NAME</th>
<th>HYATT</th>
<th>MARRIOTT</th>
<th>ROOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:30am–1:00pm</td>
<td>Critical and Point-of-Care Testing Division Executive Committee Meeting</td>
<td>Shedd A</td>
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<tr>
<td>12:00pm–1:30pm</td>
<td>23rd Annual Management Sciences and Patient Safety Division Leadership Symposium</td>
<td>Glessner House B</td>
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<tr>
<td>12:00pm–2:00pm</td>
<td>International Travel Grant Luncheon</td>
<td>Burnham BC</td>
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<tr>
<td>1:00pm–2:00pm</td>
<td>Pediatric and Maternal-Fetal Board Meeting</td>
<td>Astronomy</td>
<td></td>
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<tr>
<td>1:00pm–3:00pm</td>
<td>ABCC Clinical Chemistry Committee Meeting</td>
<td>Boardroom 4</td>
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<tr>
<td>1:00pm–3:00pm</td>
<td>ABCC Toxicology Committee Meeting</td>
<td>Boardroom 2</td>
<td></td>
<td></td>
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<tr>
<td>1:00pm–3:15pm</td>
<td>Proteomics and Metabolomics Division Mixer</td>
<td>Adler C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00pm–4:00pm</td>
<td>New Jersey/Philadelphia Local Sections Mini-Symposium</td>
<td>Great Lakes Ballroom E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:30pm–4:30pm</td>
<td>Management Sciences and Patient Safety Division Executive Leadership Meeting</td>
<td>Glessner A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:45pm–8:00pm</td>
<td>AACC Opening Mixer &amp; Division Networking Event</td>
<td>Regency Ballroom A-E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:45pm–10:30pm</td>
<td>AACC Awards Recognition Dinner</td>
<td>Prairie A</td>
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<td></td>
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</table>

### MONDAY, JULY 30, 2018

<table>
<thead>
<tr>
<th>TIME</th>
<th>MEETING NAME</th>
<th>HYATT</th>
<th>MARRIOTT</th>
<th>ROOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30am–8:00am</td>
<td>NEO/Ohio Valley/Michigan Local Sections Breakfast</td>
<td>Glessner House B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00am–8:30am</td>
<td>AACC Southeast Local Section Breakfast</td>
<td>Glessner House C</td>
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<td></td>
</tr>
<tr>
<td>7:30am–8:30am</td>
<td>Molecular Pathology Division Executive Board Meeting</td>
<td>Boardroom 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00am–10:00am</td>
<td>NSG/IFCC Manufacturer Forum</td>
<td>Daniel Burnham AB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00am–12:00pm</td>
<td>ABCC Board of Directors Meeting</td>
<td>Field ABC</td>
<td></td>
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<tr>
<td>12:00pm–1:30pm</td>
<td>Biomarkers of Acute Cardiovascular Disease Division Meeting</td>
<td>Anthropology</td>
<td></td>
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</tr>
<tr>
<td>12:00pm–1:30pm</td>
<td>Endoscopy Division Luncheon Mixer</td>
<td>Grant Park A</td>
<td></td>
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</tr>
<tr>
<td>12:00pm–2:00pm</td>
<td>Molecular Pathology Division Awards Judging</td>
<td>DuSable A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00pm–2:00pm</td>
<td>Therapeutic Drug Management and Toxicology Division Annual Meeting</td>
<td>Burnham AB</td>
<td></td>
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<tr>
<td>12:00pm–2:00pm</td>
<td>ABCC Molecular Diagnostics Committee Meeting</td>
<td>DuSable C</td>
<td></td>
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</tr>
<tr>
<td>12:00pm–2:30pm</td>
<td>Clinical Translational Science Division Lunch and Learn</td>
<td>Water Tower AB</td>
<td></td>
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<tr>
<td>1:00pm–2:00pm</td>
<td>Student Poster Contest</td>
<td>McCormick Place N228</td>
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<tr>
<td>1:00pm–5:00pm</td>
<td>Industry Division Membership</td>
<td>Hyde Park AB</td>
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<tr>
<td>2:15pm–3:30pm</td>
<td>Student Poster Contest</td>
<td>McCormick Place N227AB</td>
<td></td>
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</tr>
<tr>
<td>5:30pm–6:30pm</td>
<td>Lipoproteins and Vascular Diseases Division Membership Reception and Poster Viewing</td>
<td>Grand Horizon Ballroom A</td>
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### TUESDAY, JULY 31, 2018

<table>
<thead>
<tr>
<th>TIME</th>
<th>MEETING NAME</th>
<th>HYATT</th>
<th>MARRIOTT</th>
<th>ROOM</th>
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<tbody>
<tr>
<td>7:00am–9:00am</td>
<td>AdvaMed/Dx DX Leaders Unplugged</td>
<td>Water Tower AB</td>
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<tr>
<td>7:30am–9:00am</td>
<td>Capital Local Section Breakfast</td>
<td>Marina City</td>
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<tr>
<td>9:00am–11:00am</td>
<td>Division of Animal Clinical Chemistry Business Meeting</td>
<td>Adler C</td>
<td></td>
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</tr>
<tr>
<td>11:30am–3:00pm</td>
<td>History of Clinical Chemistry Division Luncheon</td>
<td>Burnham B</td>
<td></td>
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<tr>
<td>11:30am–3:30pm</td>
<td>Informatics Division Membership Luncheon</td>
<td>Grant Park A</td>
<td></td>
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<tr>
<td>12:00pm–1:00pm</td>
<td>Lipoproteins and Vascular Diseases Division Executive Committee Meeting</td>
<td>Algebra Board Room</td>
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<tr>
<td>12:00pm–1:30pm</td>
<td>IFCC Corporate Members Meeting</td>
<td>Field AB</td>
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<tr>
<td>12:00pm–2:00pm</td>
<td>Joint Luncheon of the Molecular Pathology and Personalized Medicine Divisions</td>
<td>Prairie B</td>
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<tr>
<td>12:30pm–3:00pm</td>
<td>Division of Animal Clinical Chemistry Presentations</td>
<td>Grant Park A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00pm–2:30pm</td>
<td>Pediatric and Maternal-Fetal Meeting, Current and Future Activities of NHANES and Collaborative Opportunities for AACC Members</td>
<td>Regency Ballroom C</td>
<td></td>
<td></td>
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<tr>
<td>4:30pm–6:30pm</td>
<td>AACC Midwest Local Section Mixer</td>
<td>Glessner House A</td>
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<tr>
<td>5:30pm–7:00pm</td>
<td>Joint Mixer of the Clinical and Diagnostic Immunology and Tumor Markers and Cancer Diagnostics Divisions</td>
<td>Daniel Burnham AB</td>
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<tr>
<td>5:30pm–7:30pm</td>
<td>CDC Standardization Forum</td>
<td>Physiology</td>
<td></td>
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<tr>
<td>5:30pm–7:30pm</td>
<td>Strategically Transforming Molecular Testing Today: Centralization of Routine Testing and Decentralization of Urgent Testing</td>
<td>Great Lakes Ballroom ABC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:30pm–11:00pm</td>
<td>Critical and Point-of-Care Testing Division Mixer, Meeting and AfterGlow Events</td>
<td>Regency Ballroom A</td>
<td></td>
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</tr>
<tr>
<td>6:00pm–7:30pm</td>
<td>Chicago Local Section Awards Dinner</td>
<td>Marina City</td>
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<tr>
<td>6:00pm–8:00pm</td>
<td>Mass Spectrometry and Separation Sciences Division Mass Spectacular</td>
<td>Great Lakes Ballroom FG</td>
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</tr>
<tr>
<td>6:00pm–9:30pm</td>
<td>Nutrition Division Symposium</td>
<td>Water Tower A</td>
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</table>

### WEDNESDAY, AUGUST 1, 2018

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<tr>
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<th>HYATT</th>
<th>MARRIOTT</th>
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</thead>
<tbody>
<tr>
<td>7:00am–8:30am</td>
<td>New Clinical Laboratory Practice Recommendations for the Use of Cardiac Troponin in Acute Coronary Syndrome</td>
<td>Grand Horizon Ballroom</td>
<td></td>
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</tr>
<tr>
<td>7:30am–9:30am</td>
<td>IFCC CPO Executive Meeting</td>
<td>Field AB</td>
<td></td>
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</tr>
<tr>
<td>8:00am–10:00am</td>
<td>C-Peptide/Insulin Standardization Manufacturer Meeting</td>
<td>Daniel Burnham AB</td>
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</tr>
<tr>
<td>12:00pm–1:30pm</td>
<td>IFCC ETD Executive Meeting</td>
<td>Boardroom 2</td>
<td></td>
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</tr>
<tr>
<td>12:00pm–2:00pm</td>
<td>AACC Academy Annual Awards Luncheon and Membership Meeting</td>
<td>Prairie B</td>
<td></td>
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</tr>
<tr>
<td>12:15pm–1:45pm</td>
<td>AACC Rocky Mountain Local Section Meeting</td>
<td>Adler AB</td>
<td></td>
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</tr>
<tr>
<td>6:00pm–7:30pm</td>
<td>Hematology and Coagulation Mixer and Business Meeting</td>
<td>Water Tower B</td>
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</table>

### THURSDAY, AUGUST 2, 2018

<table>
<thead>
<tr>
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<th>HYATT</th>
<th>MARRIOTT</th>
<th>ROOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30am–10:00am</td>
<td>16th Annual Point-of-Care Coordinators Forum</td>
<td>McCormick Place 5106</td>
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</tbody>
</table>

If no location is specified, the session will take place at McCormick Place Convention Center. Meeting rooms are subject to change.
DIVISION POSTER WALKS

Led by AACC Division subject matter experts, the walks highlight posters selected by the division for further discussion. Poster walks are free, limited to 20–30 participants, and last about 30 minutes. Participants must have full or daily conference registration and are asked to line up next to the tour signs outside the entrance to the poster display. Tours will leave at the following times:

**TUESDAY, JULY 31**
12:30pm–1:30pm

<table>
<thead>
<tr>
<th>DIVISION</th>
<th>TOUR LEADER(S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomarkers of Acute Cardiovascular Disease</td>
<td>David Gaze, MD, PhD</td>
</tr>
<tr>
<td>Clinical and Diagnostic Immunology</td>
<td>Evan Ntrivalas, MD, PhD</td>
</tr>
<tr>
<td>Clinical Translational Science</td>
<td>Octavia Palmer, PhD and Zhen Zhao, PhD</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>James Faix, MD</td>
</tr>
<tr>
<td>Hematology and Coagulation</td>
<td>John V. Mitsios, PhD</td>
</tr>
<tr>
<td>Tumor Markers and Cancer Diagnostics</td>
<td>Martin Fleisher, PhD and Lakshmi Ramanathan, PhD</td>
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</table>

**WEDNESDAY, AUGUST 1**
12:30pm–1:30pm

<table>
<thead>
<tr>
<th>DIVISION</th>
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</thead>
<tbody>
<tr>
<td>Critical and Point-of-Care Testing</td>
<td>Sarah Riley, PhD</td>
</tr>
<tr>
<td>Informatics</td>
<td>Christopher McCudden, PhD</td>
</tr>
<tr>
<td>Management Sciences and Patient Safety</td>
<td>Christine Schmotzer, MD</td>
</tr>
<tr>
<td>Mass Spectrometry and Separation Sciences</td>
<td>Frederick Strathmann, PhD</td>
</tr>
<tr>
<td>Nutrition</td>
<td>Irina Kirsich, PhD</td>
</tr>
<tr>
<td>Pediatric and Maternal-Fetal</td>
<td>Mark Kellogg, PhD and Amy Pyle-Eilola, PhD</td>
</tr>
<tr>
<td>Proteomics and Metabolomics</td>
<td>Erin Kaleta, PhD</td>
</tr>
</tbody>
</table>

ALL POSTERS ARE LOCATED ON THE EXPO SHOW FLOOR, POSTER THEATER.
The AACC Student Poster Contest showcases AACC’s finest young scientists. The contest consists of two sessions. The first half is an oral competition with four students presenting their work.

A panel of judges will rate the presentations on the basis of scientific content, originality/novelty and presentation (including slide appearance, verbal presentation, style and clarity). Four awards will be given: first place, second place and two honorable mentions.

The second session of the competition consists of poster presentations. Over 70 posters will be displayed and reviewed. Judges will evaluate each poster individually in timed rounds. Student presenters are rated on their ability to convey their work concisely. Posters are scored on scientific merit and oral and visual presentation. Four awards will be given: first place, second place and two honorable mentions.

**MONDAY, JULY 30**
McCormick Place

**ORAL PRESENTATIONS**
1:00pm–2:00pm
Room N226 — North Building, Level 2

**POSTER PRESENTATIONS**
2:15pm–3:30pm
Room N227AB — North Building, Level 2

**STUDENT ORAL CONTEST PRESENTATIONS**
De Novo Amino Acid Sequencing of M-proteins by 21 Tesla FTICR MS Using Top-Down and Middle-Down MS/MS Techniques
Lidong He, PhD, University of Virginia

Impact of Cross-See Hormone Therapy on Common Laboratory Tests in Transmen and Transwomen
Jeffrey Soffele, University of Texas Southwestern Medical Center

Assay Development and Evaluation of Serum Amyloid A and Verucian as Novel Biomarkers for Thoracic Aortic Aneurysm and Dissection
Christopher Koch, Cleveland State University, Cleveland Clinic Lerner Research Institute

Targeting Production of a Fast-Forming Proteotypic Peptide for Rapid Quantification of Apolipoprotein A1 in Plasma by LC-MS/MS
Junyan Shi, PhD, University of British Columbia

**2018 STUDENT FOSTER PRESENTERS**

A-007 Blake Ebert
Towards Development of an Exosomal Protein Biomarker Signature to Monitor Cancer Progression in Uveal Melanoma

A-028 Dan-Dan Li
Methylation of NRP1 as a Novel Marker for the Detection of Plasma Cell-Free DNA in Breast Cancer Patients

A-064 Penn Mulunguwi
Identification of Oncogenic Driver Mutations in Non-Small-Cell Lung Cancer Patients

A-046 Stacy Kenyon
Clinical Correlation between Serum Biomarkers CA27.29 and CA15-3 and Disease Status in Patients with a History of Advanced Breast Cancer

A-069 Jeli Li
Early Detection of Donor-batch-induced Cardiotoxicity with High-Sensitivity Troponin T in Chemotherapy-Treated Patients

A-076 Ian Gunsulos
High-Sensitivity Cardiac Troponin I Whole Blood and Plasma Specimen Comparisons Measured by the ET Healthcare Pylon Point-of-Care Assay

A-086 Jaske Ivica
Eart-Type Fatty Acid-Binding Protein Measurements to Aid in Interpreting Abnormal and Non-Changing Cardiac Troponin Concentrations

A-094 Dan-Dan Li
Serum Gamma-Glutamyltransferase Levels are Associated with Cardiovascular Risk Factors in China: A Nationwide Population-Based Study

A-103 Ian Gunsulos
Susceptibility of High Sensitivity Cardiac Troponin I and Gen S cTnT Assays to Born Interference

A-108 Christopher Farnsworth
Poor Correlation and Concordance Between NT-proBNP and BNP in Patients with Suspected Heart Failure

A-113 Christopher Koch
Assay Development and Evaluation of Serum Amyloglob and Verucian as Novel Biomarkers for Thoracic Aortic Aneurysm and Dissection

A-129 Hiroaki Furuyama
An ELISA Serum Assay Using Monoclonal Antibodies Against Amyloid Beta Aggregates

A-141 Maryam Salehi
A Combined Approach for Validation of the Pneumatic Tube Systems

A-145 Valentinas Gruzdys
An ELISA Serum Assay Using Monoclonal Antibodies Against Amyloid Beta Aggregates

A-161 Maryam Salehi
A Combined Approach for Validation of the Pneumatic Tube Systems

A-162 Jonny Mai
Use of a New Data Mining Technique Demonstrates Highly Predictable Periods of Accurate and Less Accurate Point-of-Care Testing

A-163 Dan Wang
An Equation for Correction of Potassium in Hemolyzed Specimens

A-177 Jonny Mai
Derivation of True Metrics of Long Term Patient Variation of Three Contemporary Hemoglobin A1c Assays Demonstrates Both Borderline and Highly Acceptable Analytical Performance

A-192 Huang Hengjian
De Novo Amino Acid Sequencing of M-proteins by 21 Tesla FTICR MS Using Top-Down and Middle-Down MS/MS Techniques

A-208 Erin Schuler
In Pursuit of an Optimal Vitamin D Assay in the Era of High Patient Volume and Complexity

A-224 Jason Robinson
Macroprolactin is Not Predicted by Prolactin Concentrations greater than 100 µg/L Above Validated Prolactin Reference Intervals

A-229 Kendra Draglin
Sporidialone Metabolites Causes Falsey Increased Progestosterone in the Abbott Architect Immunoassay

A-254 Maximo Marin
Effect of Open Containers on Stability of Common Plasma Chemistry Tests Measured on Total Automation Lines

A-263 Grace Williams
Assessment of Farsham:In Interference in Commonly Ordered Chemistry Tests

A-281 Dustin Bunch
Comparison of Multiple Analytical Approaches for Determining Reference Intervals

A-289 Michelle Parker
HbA1c Platforms are Variably Affected by Increasing Lipemia

A-269 Nicola Rutherford
Interference of Acetone with the Alkaline-Picrate Method for Blood Creatinine Measurement on the Abbott Architect

A-293 Jeannie Stubbsfield
Prediction of Birth Interference in Samples Received for Routine Thyroid Function Testing

A-351 Katherine Turner
Lowest is Not Always the Best: An International Serum Protein Electrophoresis Accuracy Study

A-384 Karmella Caster
Retrospective Review of Influenza Quantitation and Anti-Influenza Test Results
AACC ACADEMY HONORS
NEW ACADEMY FELLOWS

AACC Academy is proud to announce its Academy Fellows. As members of AACC Academy, these distinguished scientists are all doctorate-level professionals dedicated to enhancing the scholarship and practice of laboratory medicine. New Fellows will be honored during the Academy Awards Luncheon on Wednesday, August 1, during the AACC Annual Meeting. AACC Academy honors the achievements of its members and through an active education and publication program enlists their support and expertise to bring about positive change in the current practice of laboratory medicine.

To learn more about the Academy and its activities, visit https://www.aacc.org/community/aacc-academy.

ACADEMY FELLOWS ACCEPTED SINCE JUNE 2017

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution/Position</th>
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<tbody>
<tr>
<td>Sultan Alouffi, PhD</td>
<td>University Health Network and Princess Margaret Cancer Centre</td>
</tr>
<tr>
<td>Mahesheema Ali, PhD</td>
<td>Mayo Clinic</td>
</tr>
<tr>
<td>Bolonghoge Dayanath, MD</td>
<td>University Health Network and Princess Margaret Cancer Centre</td>
</tr>
<tr>
<td>James Fuller, PhD</td>
<td>Mayo Clinic</td>
</tr>
<tr>
<td>Erin Kaleta, PhD</td>
<td>Mayo Clinic</td>
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ASSOCIATE FELLOWS ACCEPTED SINCE JUNE 2017

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution/Position</th>
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<tbody>
<tr>
<td>Chandrika Meehame, PhD</td>
<td>Children's Hospital of Philadelphia</td>
</tr>
<tr>
<td>Hema Ketha, PhD</td>
<td>Children's Hospital of Philadelphia</td>
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<tr>
<td>Kin Fan Chau, PhD</td>
<td>Children's Hospital of Philadelphia</td>
</tr>
<tr>
<td>Adam McShane, PhD</td>
<td>Children's Hospital of Philadelphia</td>
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</table>

2018 AACC AWARD WINNERS

Wallace H. Coulter Lecture Award
BRIAN DRUKER, MD
Oregon Health & Science University

Outstanding Lifetime Achievement Award in Clinical Chemistry and Laboratory Medicine
D. ROBERT DUFOUR, MD
George Washington University School of Medicine and Health Sciences

Outstanding Contributions in Education
THOMAS ANNESLEY, PhD
University of Michigan

Outstanding Contributions Through Service to the Profession of Clinical Chemistry
FRED APPLE, PhD
Hennepin County Medical Center

Outstanding Scientific Achievements by a Young Investigator
CHRISTINA LOCKWOOD, PhD
University of Washington

AACC Past President’s Award
MICHAEL BENNETT, PhD
Children’s Hospital of Philadelphia

AACCA-AACC Academy Award for Outstanding Contributions to Clinical Chemistry in a Selected Area of Research
ALLAN JAFFE, MD
Mayo Clinic

AACCA Academy Professor Alvin Dubin Award for Outstanding Contributions to the Profession and the Academy
LORALIE LANGMAN, PhD
Mayo Clinic

AACCA Academy George Granis Award for Excellence in Research and Scientific Publication
PHEDIAS DIAMANDIS, MD, PhD
University Health Network and Process Margaret Cancer Centre

Outstanding Legislator Award
REPRESENTATIVE KEVIN YODER, JD
R-Kansas

2018 DISTINGUISHED ABSTRACTS AWARDS

A-100 Ibrahim Hashim, Dallas, TX

A-103 Ian Gusolosu, Minneapolis, MN
Sepsisibility of High Sensitivity Cardiac Troponin I and Gen 5 c-TnT Assays to Biotech Interference

A-106 Ian Gusolosu, Minneapolis, MN
Baseline High-Sensitivity Cardiac Troponin I Assays in Risk Assessment in Patients with Diabetes, Hypertension, and Dyslipidemia without Myocardial Infarction

A-107 Karen Schulz, Minneapolis, MN
Sex-Specific 99th Percentiles Derived from the AACC Universal Sample Bank for 8 High-Sensitivity Cardiac Troponin Assays

A-211 Mark Kushin, Salt Lake City, UT
Free 25 Hydroxy Vitamin D by LCx/MS/MS: Reference Intervals in Healthy Adults and Observations in Pre-/Post-Menopausal Women

A-213 Hyosoom Park, Seoul, South Korea
Three Alternative Markers of Hyperglycemia for Early Detection of Diabetes: Glycated Albumin, 1,5-anhydroglucitol, and Fructosamine

A-281 Dustin Bunch, New Haven, CT
Comparison of Multiple Analytical Approaches for Determining Reference Intervals

A-283 Heather Stiegltz, Chapel Hill, NC
Biotech Interference in 21 Immunoassays Performed on the Vitros5600

A-321 Jamie Ashby, Birmingham, England, United Kingdom
GIP-MS: A Specific, Sensitive, Accurate, and Quantitative Alternative to Electrodes for the Identification of Intact Monomolecular Immunoglobulins

A-329 David Barnidge, Rochester, MN
Using QIP-MS to Distinguish a Therapeutic mAb from an Endogenous M-protein in Patients Being Treated for Multiple Myeloma

A-355 Isabel Rodriguez Martin, Sevilla, Spain
A Liquid Chromatography Tandem Mass Spectrometry method for the Simultaneous Screening and Quantification of 10 Analgesics and Narcotics from Micro Plasma Collection Card

A-361 Amalbika Tanak, Richmond, TX
Electrochemical Detection of Parathyroid Hormone as a Point-Of-Care Testing Device Towards Clinical Applications

A-434 Youyi Lu, Shanghai, China
A Liquid Chromatography Tandem Mass Spectrometry method for the Simultaneous Screening and Quantification of 10 Analgesics and Narcotics from Micro Plasma Collection Card

A-437 Adam Ptolemy, London, ON, Canada
A Novel Tool to Relate Glucose Meter Performance to Clinical Outcome: The Inulin Dose Error Assessment (IDEA) Grid

A-535 Isabel Rodriguez Martin, Sevilla, Spain
Evaluation of Health Outcomes After the Implementation of Rotational Thromboelastometry in Patients Undergoing Cardiac Surgery

A-541 Ambalika Tanak, Richmond, TX
A Liquid Chromatography Tandem Mass Spectrometry method for the Simultaneous Screening and Quantification of 10 Analgesics and Narcotics from Micro Plasma Collection Card

B-253 Yu Zhou, Cleveland, OH
An LCx/MS/MS Assay with On-Line Extraction for Measurement of Testosterone in Serum or Plasma

B-254 Lidong He, Tallahassee, FL
De Novo Amide Acid Sequencing of M-proteins by 21 Tesla FTICR MS Using Top-Down and Middle-Down MS/MS Techniques

B-256 Daniel Li, Minneapolis, MN
Association of Plasma Metabolites with Brain MRI Measures in the Atherosclerosis Risk in Communities-Neurocognitive Study (ARIC-NCS)

B-307 Uttam Garg, Kansas City, MO
Significant Loss of Blood Amino Acids and Free Carnitine in Newborns Receiving Continuous Renal Replacement Therapy (CRRT)

B-327 Victoria Higgins, Toronto, ON, Canada
CALIPER Continuous Reference Curves for Biochemical Markers: Advantages over Traditional Partitioned Reference Intervals

B-354 Martha Lyon, Saskatoon, SK, Canada
A Novel Tool to Relate Glucose Meter Performance to Clinical Outcome: The Inulin Dose Error Assessment (IDEA) Grid

B-355 Isabel Rodriguez Martin, Sevilla, Spain
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B-453 C. Taylor, Crumlin, Northern Ireland, United Kingdom
Prevalence and Trends in Drug Use: Urine Drug Screening Positivity Rates for Community-based Patients in Ontario, Canada, from 2014 to 2017

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Free 25 Hydroxy Vitamin D by LCx/MS/MS: Reference Intervals in Healthy Adults and Observations in Pre-/Post-Menopausal Women

A-213 Hyosoom Park, Seoul, South Korea
Three Alternative Markers of Hyperglycemia for Early Detection of Diabetes: Glycated Albumin, 1,5-anhydroglucitol, and Fructosamine

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A-329 David Barnidge, Rochester, MN
Using QIP-MS to Distinguish a Therapeutic mAb from an Endogenous M-protein in Patients Being Treated for Multiple Myeloma

B-089 Ron Schifman, Tucson, AZ
Using QIP-MS to Distinguish a Therapeutic mAb from an Endogenous M-protein in Patients Being Treated for Multiple Myeloma

B-041 Christopher McCudden, Ottawa, ON, Canada
Automated Laboratory-based Population Health System for Diabetes: Glycated Albumin, 1,5-anhydroglucitol, and Fructosamine

A-355 Isabel Rodriguez Martin, Sevilla, Spain
Evaluation of Health Outcomes After the Implementation of Rotational Thromboelastometry in Patients Undergoing Cardiac Surgery

A-434 Youyi Lu, Shanghai, China
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B-355 Isabel Rodriguez Martin, Sevilla, Spain
Evaluation of Health Outcomes After the Implementation of Rotational Thromboelastometry in Patients Undergoing Cardiac Surgery
Eight topic tracks highlight different dynamic areas of clinical laboratory medicine. Check out the sessions that support your area of interest, and make the most of your educational experience in Chicago.

### ENDOCRINOLOGY

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### PEDIATRIC/MATERNAL-FETAL

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### PRECISION MEDICINE & ONCOLOGY

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<td>Monday</td>
<td>Implementing a High(er) Sensitivity Cardiac Troponin Assay: Lessons Learned from One Institution about Analytical Validation and Clinical Protocol Development</td>
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<td>32146</td>
<td>Monday</td>
<td>Implementation of a Multidisciplinary Cancer Precision Medicine Program: An Institutional Experience</td>
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<td>TDM and Pharmacogenomics: Complementary Tools for Precision Medicine</td>
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<td>32226</td>
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<td>Lipoprotein-Related Precision Medicine—Implications in Risk Stratification and Emerging Therapies of Coronary Heart Disease and Aortic Valve Disease</td>
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<td>Gaps in Knowledge and Convervencies Surrounding Thyroglobulin Measurement and Interpretation</td>
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<td>Opportunities for Clinical Chemists in Precision Oncology Multi-Omic Clinical Trials (AACC-NCI Symposium)</td>
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<td>Pharmacogenomics in Laboratory Medicine: Moving to an Era of Precision Medicine</td>
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<td>Wednesday</td>
<td>Real Global News: It’s Time to Embrace High-Sensitivity Cardiac Troponin Assays with Cost-Benefit Strategies for Early Rule-Out and Rule-In of Myocardial Infarction and Injury</td>
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### TOXICOLOGY/TDM

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<td>President’s Invited Session: A View from the Trenches of the Opioid Epidemic: How Do We Win the War?</td>
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<td>32411</td>
<td>Monday</td>
<td>Real-Time Toxicology Testing and Case Discussion for Drugs of Abuse</td>
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<td>32227</td>
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<td>The Burden of Proof: Understanding Impacts of Laboratory Testing and Technology</td>
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<td>Therapeutic Drug Monitoring of Anticoagulant Agents by Coagulation Laboratory Tests</td>
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<td>Urine Drug Testing: Debates over Best Practices to Assess Compliance and Manage the Opioid Crisis</td>
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<td>How People Try to Beat Drug Testing and Defend Positive Results</td>
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<td>Wednesday</td>
<td>Implementing or Extending Toxicology Laboratory Services—What and How?</td>
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<td>What Is My Patient Using? Facilitating the Accurate Interpretation of Urine Drug Screen Results</td>
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### UTILIZATION & LAB MANAGEMENT

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<td>Trust, but Verify: Getting the Most Out of Verification Protocols for FDA-Approved Methods</td>
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<td>32412</td>
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<td>The Role of the Clinical Laboratory in Transplantation</td>
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<td>Contributing Factors to Diagnostic Errors in the Clinical Laboratory Identified by Laboratory: What Can We Fix Right Now?</td>
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<td>Monday</td>
<td>Clinical Lab 2.0: How Laboratories Can Support Value-Based Care, Optimize Patient Outcomes and Reduce Total Cost of Care in Acute and Chronic Conditions</td>
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<td>33110</td>
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<td>Speed Dating: Navigating Pain Points in the Clinical Laboratory</td>
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<td>Navigating through Go-Live “Hiccups” with Instrumentation, Automation and Informatics: An Application Showcase</td>
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<td>34104</td>
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<td>Are Your Lab Tests Viable under PAMA Medicare Reimbursements?</td>
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<td>Better Testing, Better Care—the Role of the Laboratory in Improving Patient Outcomes</td>
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<td>35108</td>
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<td>Harnessing the Power of Evidence-Based Medicine to Maximize Laboratory Cost Savings and Effective Test Utilization</td>
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Visit the Area 9 Learning booth #2081 for a demo

www.aacc.org/learninglab
SESSION INFORMATION

FACULTY DISCLOSURE INFORMATION
The AACC, in compliance with the ACCME Standards for Commercial Support, requires anyone who is in a position to control the content of an educational activity to disclose (or an immediate family member) has had a relevant financial relationship with a commercial interest whose products/services may be related to or discussed in the activity. Faculty members whose names are preceded by:

• (*) An asterisk – disclosed that they may have had a relevant financial relationship with a commercial interest within the last 12 months. These relationships were reviewed by the Annual Meeting Organizing Committee and conflicts of interest were resolved prior to the Annual Scientific Meeting.
• (8) A pound sign – disclosed that they have had no relevant financial relationships with a commercial interest within the last 12 months.
• (+) A plus sign – had not submitted a disclosure form at the time of printing.

Completed disclosure forms are on file in the AACC office, and a handout summarizing all faculty disclosure information is distributed to Annual Scientific Meeting attendees in their registration materials.

SESSION LEVEL CONTENT
BASIC – Introductory content appropriate for participants who lack previous training or experience in the subject, or whose previous experience or training is minimal.
INTERMEDIATE – Requires knowledge of the basic theory applicable to the general subjects as well as some prior training and education in the subject.
ADVANCED – Specialized content appropriate for those with working knowledge of current theory and practices and who wish to refine their skills or learn the newest principles and techniques.

SESSION CREDITS
Credit amounts displayed in this program guide are subject to change. For the most up-to-date information on credits available by session, check the mobile app or visit www.aacc.org/2018am and select “Conference Program.”

SESSION DESCRIPTIONS
All of the following sessions are open to conference registrants.

PLENARY SESSIONS
Designed for all levels, and featuring visionaries in clinical practice, research, business and policy.

SCIENTIFIC SESSIONS
These sessions are presented by highly regarded speakers, offering in-depth learning about specific areas of clinical laboratory practice.

MEET THE EXPERT SESSIONS
Attendance limited to 75 participants per session. Admission is first come, first served.

CHAIR’S INVITED SESSION
The Chair of the 2018 Annual Meeting Organizing Committee created this special session of particular importance to attendees. Details on page 52.

PRESIDENT’S INVITED SESSION
The AACC President has created this special session of particular importance to attendees. Details on page 44.

ORAL ABSTRACT PRESENTATIONS
Selected abstracts identified by the Annual Meeting Organizing Committee will be presented.

LATE BREAKING SESSIONS
This year’s meeting features three sessions that focus on late breaking science. See pages 51, 89 and 106 for more details.

CONFERENCE RECORDING
The 70th AACC Annual Scientific Meeting will be recorded. Access to the streaming content is available for purchase as an 11-month subscription that will commence in August 2018 and close at the end of June 2019. The content is made available as streaming content only and is not available for download. The recording will include audio and presentation slides from most of the scientific sessions. The recordings will be available approximately two weeks after the close of the meeting.

PRICE: $199 with registration or at the meeting/$299 after the close of the meeting (August 2, 2018, 1:00pm CDT). To purchase, visit www.aacc.org/2018am.

REGISTRATION TYPES & EVENTS

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AAACC REGISTRATION RESOURCE CENTER
Access your handouts and a copy of your receipt.

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Type the URL or scan the QR code:
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LOG IN
Enter the following criteria to log in:
Badge Number: Listed on left side of badge
Last Name: Exactly as entered when registering

CONFERENCE
Sunday | July 29

AACC University

Ticket and fees required for each course.

SUNDAY
JULY 29

PLENARY & SCIENTIFIC SESSIONS

MORNING
8:30am–11:30am
Hemoglobin Electrophoresis
191001
McCormick Place, S101A
Level: BASIC
CE Credit: 3.0
Moderator:
#John Mitsios, PhD
BioReference Laboratories, Elmwood Park, NJ
Developed in cooperation with the Hematology and Coagulation Division

Intended Audience: This course is intended for clinical chemists, laboratory technologists, residents and pathologists.

Course Overview: This course will review specialized testing used for the diagnosis of hemoglobinopathies. In addition, this course will also provide an overview of the clinical presentation of patients with hemoglobinopathies.

Expected Outcomes: After this course, participants will be able to:
1. Describe the physiology of hemoglobin disorders.
2. Describe the methods/techniques used for hemoglobin electrophoresis.
3. Differentiate normal from abnormal hemoglobin electrophoresis.
4. Contrast different approaches to diagnosing different hemoglobinopathies.

Speakers:
The Pathophysiology of Hemoglobin; The Anatomy of a CBC; Laboratory Diagnosis of Hemoglobinopathies
#John Mitsios, PhD
BioReference Laboratories, Elmwood Park, NJ
Clinical Presentation; Interactive Clinical Cases
Amy Chadburn, MD
Weill Cornell Medical College-NYPH, New York, NY

8:30am–11:30am
Trust, but Verify: Getting the Most Out of Verification Protocols for FDA-Approved Methods
191002
McCormick Place, S101B
Level: BASIC
CE Credit: 3.0
Moderator:
#Sten Westgard, MS
Westgard QC, Inc., Madison, WI

Intended Audience: This course is intended for lab directors, lab supervisors, lab managers and laboratory technicians responsible to bringing new methods into routine operation.

Course Overview: Can laboratories assume that all methods are acceptable? Sadly, no. Labs are responsible for verifying that their methods perform as “advertised.” Participants will learn how to implement and interpret the required verification studies performed when first using an FDA-approved method. It will focus on CLSI guidelines but include additional assessment tools such as Sigma-metrics. Participants will learn how to judge method performance objectively—to determine whether or not the test is providing results that meet the required quality for good patient care.

Expected Outcomes: After this course, participants will be able to:
1. Establish clinically relevant performance goals for laboratory methods.
3. Identify common pitfalls in the performance of the verification studies and how to avoid them.
4. Reach objective, sound decisions about the performance (and acceptability) of new methods.

Speakers:
Verified to What? Establishing Performance Specifications and Quality Goals for Laboratory Methods
#Sten Westgard, MS
Westgard QC, Inc., Madison, WI
Verification Studies: How the Study Methods Prevent Statistical Madness
David Koch, PhD, DABCC
Grady Memorial Hospital and Emory University, Atlanta, GA
**INTENDED AUDIENCE:** This course is intended for point-of-care coordinators, medical technologists, lab managers/supervisors, pathologists, lab directors, clinical chemists or NVD industry scientists who are involved with point-of-care testing and who desire to gain a basic understanding of important elements of POCT program management.

**COURSE OVERVIEW:** The findings of a recent national survey show a demand for targeted POCT education and application of skills. This morning course will focus on important elements of operator training techniques and device connectivity using interactive techniques and audience response. (See Part 2 for focus areas in the afternoon course.) Both courses will include the importance of building clinical partnerships for successful POCT program delivery.

**EXPECTED OUTCOMES:** After this course, participants will be able to:
1. Differentiate between education and training.
2. Construct a basic training program that includes competency assessment.
3. Describe components, tools and strategies for a successful training program.
4. Outline implementation steps for connectivity and review troubleshooting strategies.
5. Learn how to integrate connectivity into your routine.

**SPEAKERS**

On the Double: Strategies and Tools to Improve Training Programs

*Peggy Mann, MS, MT(ASCP)*
University of Texas Medical Branch, Galveston, TX

Connectivity: Whosever Said The Pan Is Mightier Than the Sword Never Worked with a POCT Interface

*Jeanne Mumford, MT(ASCP)*
Johns Hopkins Hospital, Monkton, MD

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**SPEAKERS**

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*Peggy Mann, MS, MT(ASCP)*
University of Texas Medical Branch, Galveston, TX

Connectivity: Whosever Said The Pan Is Mightier Than the Sword Never Worked with a POCT Interface

*Jeanne Mumford, MT(ASCP)*
Johns Hopkins Hospital, Monkton, MD

**INTENDED AUDIENCE:** This course is intended for clinical laboratory directors and pathologists, clinical technologists, NVD manufacturers and pharmaceutical scientists, as well as anyone who has worked with protein electrophoresis for at least six months, who are interested in learning about troubleshooting, interpretation of cases taking into account other laboratory assays and clinical picture, and standardized approaches to quantification and reporting of paraproteins, including commenting.

**COURSE OVERVIEW:** Protein electrophoresis has been available for over 40 years, and as a widespread technique, there are differences in the methodologies, applications and uses, and other laboratory assays and clinical picture, and standardized approaches to quantification and reporting of paraproteins, including commenting.

**EXPECTED OUTCOMES:** After this course, participants will be able to:
1. List characteristics of the methods used for protein electrophoresis and their clinical utility.
2. Describe patterns observed in protein electrophoresis as well as common interferents.
3. Discuss main challenges of the techniques and elaborate interpretive reports for real clinical cases.

**SPEAKERS**

Protein Electrophoresis: An Introduction

*Maria Alice Willrich, PhD, DABCC, FAACC*
Mayo Clinic, Rochester, MN

Troubleshooting of Serum Protein Electrophoresis

*Christopher McCudden, PhD, DABCC, FCACB, FACB*
The Ottawa Hospital, Ottawa, ON, Canada

Labortory Work-Up and Reporting in Suspicted Multiple Myeloma

*Ronald Booth, PhD, FCACB, FAACC*
The Ottawa Hospital, Ottawa, ON, Canada

**INTENDED AUDIENCE:** The Ottawa Hospital, Ottawa, ON, Canada

**COURSE OVERVIEW:** The findings of a recent national survey show a demand for targeted POCT education and application of skills. This afternoon course will focus on the important elements of work, indicators, analytics, and procedure writing using interactive techniques and audience response. (See Part 1 for focus areas in the morning course.) Both courses will include the importance of building clinical partnerships for successful POCT program delivery.

**EXPECTED OUTCOMES:** After this course, participants will be able to:
1. Describe a process for writing effective and efficient P&Ps.
2. Construct procedural documents that are understood by the non-laboratorian.
3. Compile and analyze a process map.
4. Assess documents for risk of potential error to ensure patient safety.
5. Develop meaningful indicators for a POCT quality program, including analytics.
6. Discuss options for improving quality and recognize available resources for POCCs to help meet accreditation requirements.

**SPEAKERS**

Policies and Procedures: It’s Not OUR Fault That Nurses Won’t Read Our SOPs

*Kamila Skala, MT(ASCP)*
Instrumentation Laboratory, Bedford, MA

Quality Indicators and Analytics: I Don’t Know but I’ve Been Told, Quality Indicators Can Be SMART and BOLD

*Carla Negri, MT(ASCP)*
Sentara Healthcare, Norfolk, VA
**INTENDED AUDIENCE:** This course is intended for anyone who works to develop new test methods or implement existing methods, particularly those in a laboratory environment. This course is also appropriate for laboratory staff that implement manufactured test methods, whether commercial or LDTs; thus, the target audience includes pathologists, laboratory directors, clinical chemists, researchers, medical technologists, and other laboratory professionals.

**COURSE OVERVIEW:** This AACC University course will explain how to ensure quality through establishment, validation, and verification of performance specifications for laboratory developed tests (LDTs). The test life cycle, related concepts, and definitions will be introduced. For each step in the life cycle, speakers will present the FDA, CLIA, and ISO requirements. A specific LDT will be used to show how CLSI documents can be used to meet the requirements.

**EXPECTED OUTCOMES:** After this course, participants will be able to:
1. Explain the establishment and implementation phases in the laboratory test life cycle.
2. List the steps in each test life cycle phase.
3. Explain the FDA and CLIA regulations and guidance, and ISO standards for each life cycle phase.
4. Describe how CLSI guidelines can be used to meet these requirements.
5. Explain how checklists provided in EP19-A can help users document transitory evaluations during each step of the establishment and implementation phases.

**SPEAKERS**

**Introduction to Steps in the assay Life Cycle Model:** How CLSI Guidelines Can Be Used to Meet Requirements Using a Real-Life Example
- Paula Lading, MS, MT(ASCP)
  Mayo Clinic, Rochester, MN
  
  **ISO Requirements**
  - Lucia Bertie, MA, MT(ASCP),SLB, DLM, COA/ASQ/CMG/OC
  Laboratories Made Better, PC, Broomfield, CO

**FDA GSR Requirements**
- Manita Zucker, PhD, FAACC
  ZVD, LLC, Plattsburg, NY

**12:30pm–3:30pm**

**Protein Electrophoresis Interpretation and Reporting Workshop—Part 2**

**192011**

**McCormick Place, S102BC**

**Level:** INTERMEDIATE

**CE Credit:** 3.0

**MODERATOR**
- Christopher McCudden, PhD, DABCC, FCACB, FACB
  The Ottawa Hospital, Ottawa, ON, Canada

**INTENDED AUDIENCE:** This course is intended for pathologists, lab directors, clinical chemists, medical technologists, and laboratory administrators with an interest in developing or refining their interpretative skills for protein electrophoresis.

**COURSE OVERVIEW:** This course will provide an interactive set of serum and urine protein electrophoresis and immunofixation case studies. Attendees will be provided approaches and advice on how to interpret these results. Results will include capillary electrophoresis and agarose gels. Case examples will include clinical history and context, plus challenging interpretative aspects, such as monoclonal proteins that migrate in the alpha and beta region, as well as samples with interferences.

**EXPECTED OUTCOMES:** After this course, attendees should be able to:
1. Interpret serum and urine protein electrophoresis, immunofixation and immunosubtraction results.
2. Describe approaches to quantitation of monoclonal proteins and fractions.
3. Identify and resolve interferences that are encountered with protein electrophoresis.
4. Contrast advantages and disadvantages of different technologies for protein electrophoresis.

**SPEAKERS**

**Capillary Electrophoresis and Immunosubtraction Interpretation**
- David Keren, MD, NACC
  The University of Michigan Medical School, Ann Arbor, MI
  
  **Quantitation of Monoclonal Proteins and Fractions**
  - Ronald Booth, PhD, FCACB, FAACC
  The Ottawa Hospital, Ottawa, ON, Canada
  
  **Serum Protein Electrophoresis Reporting Perspectives and Case Examples**
  - Maria Alice Wilsch, PhD, DABCC, FAACC
  Mayo Clinic, Rochester, MN
  
  **Identifying and Managing Therapeutic and Rare Interferences with Protein Electrophoresis**
  - Christopher McCudden, PhD, DABCC, FCACB, FACB
  The Ottawa Hospital, Ottawa, ON, Canada

**12:30pm–3:30pm**

**Blood Gas Testing: Basics and Beyond**

**192012**

**McCormick Place, S101A**

**Level:** BASIC

**CE Credit:** 3.0

**MODERATOR**
- Brenda Suh-Lailam, PhD, DABCC
  Ann & Robert H. Lurie Children's Hospital of Chicago/Northwestern University, Chicago, IL

**INTENDED AUDIENCE:** This course is intended for pathologists, lab directors, clinical chemists, nurses, clinical chemists, point-of-care coordinators and technologists.

**COURSE OVERVIEW:** Blood gas analyses are essential for the management of critically ill patients. This session will review the basics of blood gas testing, discuss approaches for ensuring quality in blood gas analyses, and provide guidance on overcoming challenges associated with blood gas analyses in different clinical settings.

**EXPECTED OUTCOMES:** After this course, participants will be able to:
1. Identify the major acid-base disturbances.
2. Define oxygen content, oxygen saturation and fractional oxymoglobin.
3. Describe how to ensure quality in blood gas analysis.
4. Explain how to overcome challenges associated with performing blood gas analysis in different clinical settings.

**SPEAKERS**

**Foundations of Blood Gases**
- Gary Honowitz, MD
  Tufts Medical Center, Boston, MA

**Implementing Blood Gas Analysis at the Point-of-Care**
- Michelle Kern-Steater, PhD, DABCC, FAACC
  University of North Carolina, Chapel Hill, NC

**Overcoming Challenges of Blood Gas Testing in Different Locations**
- Brenda Suh-Lailam, PhD, DABCC
  Ann & Robert H. Lurie Children's Hospital of Chicago/Northwestern University, Chicago, IL

**12:30pm–3:30pm**

**Protein Electrophoresis Interpretation and Reporting Workshop—Part 2**

**192011**

**McCormick Place, S102BC**

**Level:** INTERMEDIATE

**CE Credit:** 3.0

**MODERATOR**
- Christopher McCudden, PhD, DABCC, FCACB, FACB
  The Ottawa Hospital, Ottawa, ON, Canada

**INTENDED AUDIENCE:** This course is intended for pathologists, lab directors, clinical chemists, nurses, clinical chemists, point-of-care coordinators and technologists.

**COURSE OVERVIEW:** This course will provide an interactive set of serum and urine protein electrophoresis and immunofixation case studies. Attendees will be provided approaches, examples and advice on how to interpret these results. Results will include capillary electrophoresis and agarose gels. Case examples will include clinical history and context, plus challenging interpretative aspects, such as monoclonal proteins that migrate in the alpha and beta region, as well as samples with interferences.

**EXPECTED OUTCOMES:** After this course, attendees should be able to:
1. Interpret serum and urine protein electrophoresis, immunofixation and immunosubtraction results.
2. Describe approaches to quantitation of monoclonal proteins and fractions.
3. Identify and resolve interferences that are encountered with protein electrophoresis.
4. Contrast advantages and disadvantages of different technologies for protein electrophoresis.
Afternoon
12:30pm–3:30pm
ANA IFA: A Workshop for Laboratory Leaders

193013 McCormick Place, S102D
Level: INTERMEDIATE
MODERATOR
*Susan Coppie, MS, MT(ASCP)SBB
Inova Diagnostics, San Diego, CA

ANA IFA: Interpreting Complex Patterns
*Susan Coppie, MS, MT(ASCP)SBB
Inova Diagnostics, San Diego, CA

ANA IFA Testing from a Rheumatologist’s Perspective
*Mark Weiner, MD
University of Washington Medical Center, Seattle, WA

Introduction and Overview of the International Consensus on ANA Patterns (ICAP)
*Edward Chan, PhD
University of Florida, Gainesville, FL

INTENDED AUDIENCE: This course is intended for laboratory directors, clinical chemists, technologists and anyone involved in or managing a lab performing ANA IFA testing.

COURSE OVERVIEW: This course will include an overview of ANA IFA recommendations, an introduction to the International Consensus on ANA Patterns (ICAP) and the organization’s role in promoting consensus around ANA pattern nomenclature, an interactive audience course interpreting complex ANA IFA patterns, and management of the laboratory to meet the growing demand for ANA IFA testing.

EXPECTED OUTCOMES: After this course, participants will be able to:
1. Identify ICAP patterns for ANA IFA.
2. List three variables that cause a lack of consistent reporting of ANA IFA results.
3. Describe how laboratory leaders have addressed management and educational challenges due to increased demand for ANA IFA.

SPEAKERS
ANA IFA: Interpreting Complex Patterns
*Susan Coppie, MS, MT(ASCP)SBB
Inova Diagnostics, San Diego, CA

ANA IFA Testing from a Rheumatologist’s Perspective
*Mark Weiner, MD
University of Washington Medical Center, Seattle, WA

Introduction and Overview of the International Consensus on ANA Patterns (ICAP)
*Edward Chan, PhD
University of Florida, Gainesville, FL

Managing ANA IFA in the Autoimmune Laboratory
#Lauren Tria, MS
Northwell Health Laboratories, Lake Success, NY

Full Day Courses
8:30am–11:30am and 12:30pm–3:30pm
Practical Next-Generation Sequencing: A Toolkit for Laboratorians

193006 McCormick Place, S103BC
Level: BASIC
MODERATOR
#Christina Lockwood, PhD, DABCC, DABMGG
University of Washington, Seattle, WA

TRACK: Genomics/Genetics

COURSE OVERVIEW: This course aims to assist clinical laboratories interested in implementing mass spectrometry. It will cover the fundamentals of liquid chromatography and tandem mass spectrometry, a discussion of available sample preparation techniques, essential considerations and effective approaches for method development, validation, post-implementation monitoring, and troubleshooting.

EXPECTED OUTCOMES: After this course, participants will be able to:
1. Describe the basics of liquid chromatography.
2. Describe the basics of tandem mass spectrometry.
3. Describe common sample preparation strategies.
4. Create a plan for method development and pre-validation.
5. Create a plan for method validation testing.
6. Develop a program for post-implementation monitoring.

SPEAKERS
#Christina Lockwood, PhD, DABCC, DABMGG
University of Washington, Seattle, WA

Choosing Wisely: Targeted versus Genomic Tests
#Rimina Baudhun, PhD
Mayo Clinic, Rochester, MN

Challenges of Interpreting NGS Data For Inherited Disorders
*Auro Santani, PhD
Children’s Hospital of Philadelphia, Philadelphia, PA

Clinical Exome Sequencing: Best Practices For Variant Interpretation
#Josh Degnan, PhD, FACMG
University of California, Los Angeles, Los Angeles, CA

Sequencing: Practical Next-Generation Sequencing

12:30pm–3:30pm

8:30am–11:30am and 12:30pm–3:30pm

The Secrets to Success: Implementing Robust LC-MS/MS Methods in the Clinical Laboratory

193007 McCormick Place, S103A
Level: BASIC
MODERATOR
#Deborah French, PhD, DABCC, FAAACC
University of California, San Francisco, San Francisco, CA

Developed in cooperation with the Mass Spectrometry and Separation Sciences Division

INTENDED AUDIENCE: This course is intended for healthcare professionals, including clinical pathologists, physicians, lab directors, clinical chemists, laboratory managers, medical technologists, post-doctoral fellows and IVD industry scientists.

COURSE OVERVIEW: Genetic testing using next-generation sequencing is advancing precision medicine. This course will use interactive cases to describe (1) quality control, quality assurance and regulatory considerations for NGS; (2) the relative advantages and limitations of targeted versus comprehensive NGS tests; and (3) NGS data analysis and variant interpretation.

EXPECTED OUTCOMES: After this course, participants will be able to:
1. Discuss the basic concepts, benefits and limitations of next-generation sequencing as clinical tests.
2. Understand the key challenges associated with external quality assessment for NGS tests.
3. Recognize the need for both targeted and comprehensive testing.
4. Describe the recommendations for variant classification and result interpretation in inherited disorders.

SPEAKERS
Variability in, Variability Out: Essentials of Quality Assurance in NGS
#Christina Lockwood, PhD, DABCC, DABMGG
University of Washington, Seattle, WA

Choosing Wisely: Targeted versus Genomic Tests
#Rimina Baudhun, PhD
Mayo Clinic, Rochester, MN

Challenges of Interpreting NGS Data For Inherited Disorders
*Auro Santani, PhD
Children’s Hospital of Philadelphia, Philadelphia, PA

Clinical Exome Sequencing: Best Practices For Variant Interpretation
#Josh Degnan, PhD, FACMG
University of California, Los Angeles, Los Angeles, CA

Validation and Post-Implementation Monitoring for LC-MS/MS Methods
#Julianne Botelho, PhD
Centers for Disease Control and Prevention, Atlanta, GA
FULL DAY COURSE

8:30am–11:30am and 12:30pm–3:30pm
How to Truly "Excel" at Data Analysis and Visualization: An Introduction to the R Programming Language
193008
McCormick Place, S104A

1. Describe the benefits of applying a programming language to analysis of clinical laboratory data.
2. Perform a simple set of analyses on a structured data set using R.
3. Use R to perform routine analyses of data for operational and quality improvement purposes at their home institution.

EXPECTED OUTCOMES:

After this session, participants will be able to:
1. Describe the discovery of tyrosine kinase inhibitors (TKI) and their usefulness in Chronic Myeloid Leukemia (CML).
2. Extrapolate from TKI and CML to other targeted therapies and companion diagnostics.
3. Teach others how the TKI/CML discovery helped launch the precision medicine initiative.

INTENDED AUDIENCE: This course is intended for pathologists, lab directors, clinical chemists, medical technologists, and industry scientists who perform data analysis activities as part of their job responsibilities and have minimal or no exposure to the R programming language.

COURSE OVERVIEW: R is a freely available statistical programming language that supports the complex data manipulation and analysis activities needed for efficient clinical laboratory practice. In this course, we will introduce basic concepts of R programming as well as more generalizable best practices in working with laboratory data.

EXPECTED OUTCOMES: In this course, we will cover some basic principles of using the R programming language. At the conclusion of this course, attendees will be able to:
1. Describe the benefits of applying a programming language to analysis of clinical laboratory data.
2. Perform a simple set of analyses on a structured data set using R.
3. Use R to perform routine analyses of data for operational and quality improvement purposes at their home institution.

SPEAKERS:
- Creating Clear Plots Using ggplot
  - Patrick Mathias, MD, PhD
  - University of Washington, Seattle, WA
- Making Statistics Look Easy
  - Daniel Herman, MD, PhD
  - University of Pennsylvania Perelman School of Medicine, Philadelphia, PA
- Importing and Manipulating Data in the Tidyverse
  - Joseph Rudolf, MD
  - University of Minnesota Medical School, Minneapolis, MN

SPEAKER:
- John Carreyrou, Investigative Reporter
  - The Wall Street Journal

IMATINIB AS A PARADIGM OF TARGETED CANCER THERAPIES

SESSION OVERVIEW: This session shows how to translate knowledge of the molecular pathogenesis of cancer into specific therapies and investigate the optimal use of these molecularly targeted agents. Dr. Druker revolutionized the treatment of cancer through research that resulted in the first drug to target the molecular defect of a cancer while leaving healthy cells unharmed. Imatinib (marketed as Gleevec®) turned a once-fatal cancer, Chronic Myeloid Leukemia, into a manageable condition. Imatinib received FDA approval in record time and established Dr. Druker as a pioneer in the field of precision medicine.

Most important, his discovery became a new proof of principle for targeted therapies, spurring the development of more than 50 similar precision therapies for other cancers

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe the discovery of tyrosine kinase inhibitors (TKI) and their usefulness in Chronic Myeloid Leukemia (CML).
2. Extrapolate from TKI and CML to other targeted therapies and companion diagnostics.
3. Teach others how the TKI/CML discovery helped launch the precision medicine initiative.

INTENDED AUDIENCE: This course is intended for pathologists, lab directors, clinical chemists, medical technologists and laboratory administrators with an interest in precision medicine and companion diagnostics.

SESSION OVERVIEW: This session shows how to translate knowledge of the molecular pathogenesis of cancer into specific therapies and investigate the optimal use of these molecularly targeted agents. Dr. Druker revolutionized the treatment of cancer through research that resulted in the first drug to target the molecular defect of a cancer while leaving healthy cells unharmed. Imatinib (marketed as Gleevec®) turned a once-fatal cancer, Chronic Myeloid Leukemia, into a manageable condition. Imatinib received FDA approval in record time and established Dr. Druker as a pioneer in the field of precision medicine.

Most important, his discovery became a new proof of principle for targeted therapies, spurring the development of more than 50 similar precision therapies for other cancers

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe the discovery of tyrosine kinase inhibitors (TKI) and their usefulness in Chronic Myeloid Leukemia (CML).
2. Extrapolate from TKI and CML to other targeted therapies and companion diagnostics.
3. Teach others how the TKI/CML discovery helped launch the precision medicine initiative.
PLENARY SESSION
8:45am–10:15am
McCormick Place, Grand Ballroom/S100

Genetic Defects in Bile Acid Synthesis Causing Liver Disease—Diagnosis and Treatment—Translational Medicine from Mass Spectrometry Discovery to the Bedside

SPEAKER: #Kenneth Setchell, PhD
Cincinnati Children’s Hospital, Cincinnati, OH

12001
Level: BASIC | CE Credit: 1.0

INTENDED AUDIENCE: This session is intended for pathologists, lab directors, clinical chemists, medical laboratory scientists and laboratory administrators with an interest in mass spectrometry for discovery and clinical laboratory.

SESSION OVERVIEW: This session highlights how mass spectrometry was successfully applied to define new genetic defects in the bile acid biosynthetic pathway. Bile acid synthesis disorders caused by single enzyme defects often present in infancy or early childhood with a progressive cholestatic hepatitis that, unchecked, leads to cirrhosis, liver failure and death. Prior to the seminal work of Dr. Setchell and colleagues in identifying six genetic diseases as discrete entities, and conceiving of an effective therapy, children with these autosomal recessive diseases either underwent liver transplantation or, more commonly, were given supportive care until they died of liver failure of unknown origin. This session describes the use of mass spectrometry techniques that led to the elucidation of the biochemical basis of these diseases, the development of an international screening program, and the evaluation of therapeutic responses that served to ultimately gain regulatory approval from the FDA for a life-saving therapy based on oral administration of cholic acid. This application of mass spectrometry to clinical chemistry is a noteworthy example of the transition from bench to bedside.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Explain the role of mass spectrometry in the discovery of inherited bile acid synthesis disorders.
2. Recommend testing for infants and children with idiopathic cholestasis.
3. Describe the mechanism of cholic acid treatment for these disorders.
Brown Bag sessions are presented twice daily. Attendance is limited to 10 participants per session. Advance registration and session fees are required. AACC does not provide meals for these sessions. You will be able to purchase your own food in the convention center prior to the session.

CE Credit: 1.0 (per session) unless otherwise noted in the mobile app, or at www.aacc.org/2018am | McCormick Place, Vista Ballroom/S406
**MONDAY | JULY 30**

**SCIENTIFIC SESSIONS**

**SESSION OVERVIEW:** This session will provide an excellent opportunity for a limited number of attendees to meet with Dr. Kenneth Setchell to discuss his discovery of six genetic defects that cause liver disease in infants and children and the development of a treatment for reversing what are otherwise fatal conditions. He demonstrated that oral bile acid therapy successfully reversed the biochemical and histological abnormalities and avoided the need for liver transplantation; the only alternative treatment. Dr. Setchell will discuss his application of mass spectrometry to clinical chemistry as a notable example of translational medicine.

**SPEAKER**

#Kenneth Setchell, PhD

Cincinnati Children’s Hospital, Cincinnati, OH

**EXPECTED OUTCOMES:** After this session, participants will be able to:
1. Describe unique aspects of required analytical validation for high-sensitivity troponin tests, and define approaches to address them.
2. Compare and contrast different high-sensitivity troponin tests for analytical interferences and outliers.
3. List the steps and challenges involved in developing clinical protocols for use of high-sensitivity troponin tests in evaluating acute coronary syndrome.

**SESSION OVERVIEW:** Despite widespread use worldwide, high-sensitivity cardiac troponin tests are just now becoming approved for use in the U.S. This session will cover issues specific to analytical validation required for U.S. laboratories, as well as other topics such as clinical protocol development and analytical outliers and interferences that are applicable worldwide.

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3. List the steps and challenges involved in developing clinical protocols for use of high-sensitivity troponin tests in evaluating acute coronary syndrome.

**SPEAKERS**

#Leslie Donato, PhD

Mayo Clinic, Rochester, MN

#Joely Straseski, PhD, DABCC, FAACC

ARUP Laboratories/University of Utah, Salt Lake City, UT

**NOVEMBER**

**SESSION OVERVIEW:** This session will provide an excellent opportunity for a limited number of attendees to meet with Dr. Kenneth Setchell to discuss his discovery of six genetic defects that cause liver disease in infants and children and the development of a treatment for reversing what are otherwise fatal conditions. He demonstrated that oral bile acid therapy successfully reversed the biochemical and histological abnormalities and avoided the need for liver transplantation; the only alternative treatment. Dr. Setchell will discuss his application of mass spectrometry to clinical chemistry as a notable example of translational medicine.

**SPEAKER**

#Kenneth Setchell, PhD

Cincinnati Children’s Hospital, Cincinnati, OH

**EXPECTED OUTCOMES:** After this session, participants will be able to:
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3. List the steps and challenges involved in developing clinical protocols for use of high-sensitivity troponin tests in evaluating acute coronary syndrome.

**SPEAKERS**

#Leslie Donato, PhD

Mayo Clinic, Rochester, MN

#Joely Straseski, PhD, DABCC, FAACC

ARUP Laboratories/University of Utah, Salt Lake City, UT
MORNING

10:30am-12:00pm
Challenges of Implementing Rapid HIV Testing into an HIV Testing Algorithm
32104
McCormick Place, S405
Level: BASIC
CE Credit: 1.5
MODERATOR
#Khushbu Patel, PhD, DABCC
UT Southwestern Medical Center, Dallas, TX

10:30am-12:00pm
Clinical Laboratory’s Role in the Care of Transgender Patients
32105
McCormick Place, S403
Level: BASIC
CE Credit: 1.5
MODERATOR
#Khushbu Patel, PhD, DABCC
GT Southwestern Medical Center, Dallas, TX

INTENDED AUDIENCE: This session is intended for clinicians, pathologists, laboratory directors, clinical chemists, medical technologists and IVD industry scientists.

SESSION OVERVIEW: New generations of HIV point-of-care and immunoassays for screening and confirmation are now available. This discussion will center on the challenges that we faced using HIV POC assays, and their integration in HIV testing algorithm in clinical situations where the turn-around time may be crucial for patient care.

EXPECTED OUTCOMES: After attending this session, participants will be able to:
1. Explain different generations of HIV POC, HIV screening assays, HIV supplemental assays, challenges and obstacles.
2. Assess their implementation in the reflex test algorithms in different clinical settings.
3. List specific tools that may be used to enable laboratorians to improve HIV testing.

SPEAKERS
HIV POC Testing: Challenges and Obstacles
#Edward Leung, PhD, DABCC, FAACC
The University of Chicago Medicine, Chicago, IL
Impact of Utilizing Different Generations of HIV Tests
#Vera Tesic, MD, MS, D(ABMM), MIA(SCP)
University of Chicago Medicine, River Forest, IL

EXPECTED OUTCOMES: After attending this session, participants will be able to:
1. Describe the overall workflow for designing a targeted protein mass spectrometric assay.
2. Perform in silico digestion to generate protease-specific peptides.
3. Evaluate and select suitable proteotypic peptides for a multiple reaction monitoring assay.

SPEAKERS
A Step-by-Step Guide to Designing a Protein Mass Spec Assay: Part 1
#Mari DeMarco, PhD, DABCC, FAACC, FCACB
University of British Columbia and St. Paul’s Hospital, Vancouver, BC, Canada

A Step-by-Step Guide to Designing a Protein Mass Spec Assay: Part 2
#Junyan Sh, PhD
University of British Columbia, Maple Ridge, BC, Canada

EXPECTED OUTCOMES: After attending this session, participants will be able to:
1. Recount the process by which consensus was developed, and the ongoing process for contributing pattern images and for introducing new patterns.
2. Define consensus nuclear IFA patterns.
3. Define consensus cytoplasmic IFA patterns.

SPEAKERS
A Brief History of ANA IFA Testing
*Stanley Naidos, AB, MD, FACP, FACP
Quest Diagnostics Nichols Institute, San Juan Capistrano, CA

Developing Consensus on Antinuclear Antibody Indirect Immunofluorescence (ANA IFA) Interpretation and Reporting
*Stanley Naidos, AB, MD, FACP, FACP
Quest Diagnostics Nichols Institute, San Juan Capistrano, CA

Developing Consensus on Antinuclear Antibody Indirect Fluorescence Pattern Interpretation and Reporting
*Edward Chan, PhD
University of Florida, Gainesville, FL

Nuclear ANA IFA Patterns: International Consensus on ANA Patterns, ICAP
*Marvin Fritzler, PhD, MD
University of Calgary, AB, Canada

Cytoplasmic ANA IFA Patterns: International Consensus on ANA Patterns, ICAP
*Carlos von Mühlen, MD, PhD
Rheuma Clinic, Porto Alegre, Brazil
MONDAY | JULY 30

SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm
The Quantified Self and Wellness Monitoring: Actionable Data or Harmful Information?
32108
McComick Place, S102
Level: INTERMEDIATE
CE Credit: 1.5
MODERATOR
1Shannon Haymond, PhD, DABCC
Lurie Children’s Hospital of Chicago, Chicago, IL

INTENDED AUDIENCE: This session is intended for pathologists, clinical chemists, lab directors, managers, technologists and anyone with an interest in the collection and use of longitudinal health data for the purpose of defining wellness and preventing and/or monitoring disease.

SESSION OVERVIEW: Quantifying what constitutes wellness, illness or a transition between the two is the goal of broad, large-scale efforts to map human health. Proponents believe that leveraging longitudinal health data will demystify disease. Opponents are concerned that frequent monitoring will cause harms. This session will present both perspectives and engage the audience in a robust dialogue of the issues.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Identify the most effective and targeted diagnostic work-up for symptomatic patients.
2. Define the appropriate applications and limitations of population screening for diagnosing disease, including positive and negative predictive value.
3. Explain the best use of available resources and avoid overtesting and overdiagnosis.
4. Realize the importance of reduced stress associated with health in the general population.

SPEAKERS
- Being Healthy until Proven Sick or Being Sick until Proven Healthy? That is the Question!
  *Eleftherios Diamandis, MD, PhD, FRCP
  Mount Sinai Hospital and University Health Network, Toronto, ON, Canada
- Systems Medicine, Big Data and Scientific Wellness Will Transform Healthcare
  *Larry Hood, MD, PhD
  Institute for Systems Biology, Seattle, WA
- Knowing What It Means?
  *John Higgins, MD
  Park Nicollet Institute, Minneapolis, MN
- Hemoglobin A1c (HbA1c): Do We Know What It Means?
  *Richard Bergenstal, MD
  American Diabetes Association

INTENDED AUDIENCE: This session is intended for pathologists, clinical chemists, toxicologists and medical technologists.

SESSION OVERVIEW: Efforts to control acute and chronic pain in the late 20th century spurred rapid prescribing of potent synthetic analgesics. Presently, millions of individuals misuse and abuse prescription opioids. Although laboratory testing plays a key role in promoting proper use and detecting misuse of these drugs, it will not end this epidemic alone. This session will explore the tactics being deployed to combat an epidemic that is responsible for the drop in U.S. life expectancy since early 1990s.

EXPECTED OUTCOMES: At the conclusion of this session, attendees will be able to:
1. Define the human toll and economic consequences precipitated by the abuse of opioids in the United States.
2. Explain the basis for medication-assisted treatment of substance use disorders.
3. Describe the attributes of effective substance abuse treatment by primary and emergency care providers.

SPEAKERS
- Treatment Approaches to Attacking Opiate Addiction
  *James Barry, DO
  West Virginia University School of Medicine, Morgantown, WV
- Effective Implementation and Assessment of Addiction Treatment in the Community
  *Carlene Bark-Clark, PhD
  St. Louis University School of Medicine, St. Louis, MO

INTENDED AUDIENCE: This session is intended for postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IDI scientists.

SESSION OVERVIEW: AACC is dedicated to advance the science and practice of laboratory medicine. A select group of members has reviewed and ranked the abstracts submitted for the AACC Annual Scientific Meeting. The Annual Meeting Organizing Committee has reviewed the accepted abstracts and has chosen five authors to present their research as oral presentations. Each 15-minute presentation will be followed by a 3-minute question-and-answer session.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe and evaluate the latest advances in laboratory medicine in this topic area.
2. Compare and contrast the research in this topic area.
3. Integrate and translate state-of-the-art knowledge in this topic area into the roles and responsibilities of the clinical laboratory professional.

SPEAKERS
- Standardization of New Indirect ELISA Using a Highly-specific Egg Protein from Schistosoma Mansoni for Diagnosis of Different Clinical Forms in a Low Endemic Area in Brazil
  *Vanessa Silva Moraes, MSc, Pharm
  Instituto de Pesquisas Renê Rachou, Belo Horizonte, Brazil
- Viability Assessment of In Vitro Fertilized Embryos Using a Novel Biomarker Candidate
  *Stéphane Montiko, PhD
  University of Pecs, Pecs, Hungary
- Molecular Analysis of MEN 1 Gene in Suspected Carriers of Multiple Endocrine Neoplasia Type 1 Bbm in Argentina
  *Maria Viale, PhD
  Hospital Italiano de Buenos Aires, Ciudad Autónoma de Buenos Aires, Argentina
- Validation of Prostate Cancer Biomarkers and Inflammation: A Proteomics Study
  *Tommaso Odien, PhD
  Akozena University Medical Faculty Department of Clinical Biochemistry, Antalya, Turkey
- Diagnostic Performance of Xpert MTB/RIF Assay in an Intermediate Tuberculosis Setting
  *Seung-jang Kao, PhD
  Chonnam National University Hospital, Gwangju, South Korea

INTENDED AUDIENCE: This session is intended for pathologists, lab directors, clinical chemists, toxicologists, IVD industry scientists, students, trainees and endocrinologists.

SESSION OVERVIEW: The standardization of hemoglobin A1c (HbA1c) has substantially enhanced its clinical value. The improvement in analysis has resulted in identification by clinicians of a subset of patients in whom HbA1c results appear discordant with the clinical impression. The major concerns relate to the contribution of HbA1c to complications of diabetes and the effect of different lifespans of red blood cells and hemoglobin variants on HbA1c measurements.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe factors other than glycemia that alter HbA1c values.
2. Decide whether and how HbA1c values should be corrected for red blood cell lifespan.
3. List limitations to accurate measurement of HbA1c in individuals with variant hemoglobin.

SPEAKERS
- Assessment of HbA1c in Patients with Hemoglobin Disorders
  *Randie Little, PhD
  University of Missouri at Columbia, Columbia, MO
- What HbA1c Results Don’t Tell You (About Risk for Complications and How to Personalize Management)
  *Richard Bergnerstal, MD
  Park Nicollet Institute, Minneapolis, MN
- Correcting HbA1c for Erythrocyte Lifespan: Problem Solved?
  *John Higgins, MD
  Massachusetts General Hospital, Boston, MA

INTENDED AUDIENCE: This session is intended for pathologists, lab directors, clinical chemists, toxicologists, IVD industry scientists, students, trainees and endocrinologists.

SESSION OVERVIEW: The standardization of hemoglobin A1c (HbA1c) has substantially enhanced its clinical value. The improvement in analysis has resulted in identification by clinicians of a subset of patients in whom HbA1c results appear discordant with the clinical impression. The major concerns relate to the contribution of HbA1c to complications of diabetes and the effect of different lifespans of red blood cells and hemoglobin variants on HbA1c measurements.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe factors other than glycemia that alter HbA1c values.
2. Decide whether and how HbA1c values should be corrected for red blood cell lifespan.
3. List limitations to accurate measurement of HbA1c in individuals with variant hemoglobin.

SPEAKERS
- Assessment of HbA1c in Patients with Hemoglobin Disorders
  *Randie Little, PhD
  University of Missouri at Columbia, Columbia, MO
- What HbA1c Results Don’t Tell You (About Risk for Complications and How to Personalize Management)
  *Richard Bergnerstal, MD
  Park Nicollet Institute, Minneapolis, MN
- Correcting HbA1c for Erythrocyte Lifespan: Problem Solved?
  *John Higgins, MD
  Massachusetts General Hospital, Boston, MA

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- Correcting HbA1c for Erythrocyte Lifespan: Problem Solved?
  *John Higgins, MD
  Massachusetts General Hospital, Boston, MA
MID-DAY

12:30pm-2:00pm
Real-Time Toxicology Testing and Case Discussion for Drugs of Abuse
32411
McCormick Place, S105
Level: INTERMEDIATE
CE Credit: 1.5
MODERATOR
#Alan Wu, PhD, DABCC, FAACC
University of California/San Francisco General Hospital, San Francisco, CA
Developed in cooperation with the TDM and Toxicology Division
TRACK: Toxicology/TDM

INTENDED AUDIENCE: This session is intended for all individuals who work in clinical laboratory science, including technologists who perform analyses, supervisors who must evaluate quality control data, lab scientists who perform biological variation studies, lab directors who provide toxicology data and clinical interpretation of laboratory data, and physicians who make management decisions based on lab test results. Manufacturers of LC-MS equipment should take special note as it demonstrates new applications of their analyzers.

SESSION OVERVIEW: This session will present a real toxicology case from Poison Center toxicologists and will include live comprehensive serum and urine testing. Both groups will be blinded to the drugs involved. Speakers will discuss tox needs and present the case while toxicologists will discuss a drug differential diagnosis as testing is being conducted and watched by the audience. When testing has been completed, the results will be discussed by the toxicology panel. Moderators will then discuss the challenges in providing real-time testing (reporting, billing, regulatory approvals and sample delivery from outside hospitals).

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Explain how LC-QTOF mass spectrometry is uniquely suitable for rapid toxicology testing.
2. Evaluate how the laboratory can interact with clinical toxicologists from a poison control center to enhance medical practices.
3. Explain how clinical toxicologists review clinical presentation, history and laboratory data to formulate a medical plan for patients who are poisoned, intoxicated or exposed to drugs.

SPEAKERS
Toxicology Testing Needs in the 21st Century
#Alan Wu, PhD, DABCC, FAACC
University of California/San Francisco General Hospital, San Francisco, CA
Real-Time Clinical Toxicology Testing by LC-MS
*Kara Lynch, PhD, DABCC
University of California/San Francisco General Hospital, San Francisco, CA
Discussion of Toxicology Case
#Craig Smoller, MD
University of California, San Francisco, San Francisco, CA
#Kathy Vo, MD
University of California, San Francisco, San Francisco, CA

12:30pm-2:00pm
AACC Goes Platinum: 70 Years of the AACC Annual Meeting
32413
McCormick Place, S106
Level: BASIC
CE Credit: 1.5
MODERATOR
#Joe Wiancko, PhD
University of Virginia School of Medicine, Charlottesville, VA
Developed in cooperation with the History of Clinical Chemistry Division, Industry Division

INTENDED AUDIENCE: This session is intended for all clinical laboratory scientists, including pathologists, clinical chemists, laboratory directors and technologists.

SESSION OVERVIEW: Participants will be provided with a broad overview of the clinical laboratory testing performed to support the field of transplantation. Testing to evaluate donors and recipients pre-transplant, as well as to monitor recipients perioperatively and post-transplant, will be discussed. The critical role of the clinical laboratory as a member of the transplant team will be explored.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Discuss the overall role of the clinical laboratory in all phases of transplantation.
2. Describe the testing used to evaluate donors and recipients and its impact on outcomes.
3. Describe the testing used to monitor recipients and its impact on outcomes.
4. Discuss the role of the clinical laboratory as a member of the transplant team.

SPEAKERS
The Role of the Clinical Laboratory Pre-Transplant
*John Lenz, PhD, DABHI
Gift of Hope Organ & Tissue Donor Network, Itasca, IL
The Role of the Clinical Laboratory Perioperatively
#Christopher Jones, MD
University of Louisville School of Medicine, Louisville, KY
The Role of the Clinical Laboratory Post-Transplant
*Tiffany Roberts, PhD, DABCC, DABHI
University of Louisville, Louisville, KY
**MID-DAY**

**12:30pm–2:00pm**

**Contributing Factors to Diagnostic Errors in the Clinical Laboratory Identified by Laboratorians: What Can We Fix Right Now?**

32414
McCormick Place, S103D

Level: BASIC
CE Credit: 1.5

**MODERATOR**

#Michael Laposata, MD, PhD

University of Texas Medical Branch
Galveston, Galveston, TX

**TRACK:** Utilization & Lab Management

**INTENDED AUDIENCE:** This session is intended for pathologists, laboratory directors, clinical chemists, clinical laboratory scientists, scientists in the diagnostic industry, and all those interested in high-quality laboratory performance.

**SESSION OVERVIEW:** The goal of the session is to probe the audience (using an audience feedback system requiring only an iPhone) with questions to identify major sources of diagnostic error they have witnessed in the clinical laboratory. This will involve the presentation of responses to 40 to 60 questions that extend from the pre-pre-analytical steps to the post-post-analytical steps, which will follow a brief introduction of the topic. It is hoped that audience members will help quantify the number of times they, as individuals knowledgeable about diagnostic testing, have experienced a diagnostic error personally or have observed such a mistake in regard to a family member or loved one. The data obtained from these responses could provide the basis for a report in an AACC-sponsored newsletter.

**EXPECTED OUTCOMES:** After this session, participants will be able to:

1. Describe the most highly contributory factors to diagnostic errors that occur at any point between the correct selection of laboratory tests and the correct interpretation of test results.
2. Identify the likely number of diagnostic errors experienced by individuals receiving healthcare in the United States.
3. Partner effectively with colleagues in their home institution to reduce diagnostic errors locally when they learn about common contributing factors in the clinical laboratory.

**SPEAKER**

Contributing Factors to Diagnostic Errors in the Clinical Laboratory Identified by Laboratorians Using an Audience Response System: What Can We Fix Right Now?

#Michael Laposata, MD, PhD

University of Texas Medical Branch Galveston, Galveston, TX

**SPEAKER DISCLOSURE**

(*) (#) (+)

* Speakers whose names are preceded by an asterisk (*) have disclosed, in accordance with ACCME Standards and the policy of the AACC, that they have a relationship that, in the context of their presentation, could be perceived as a conflict of interest (e.g., ownership of stock, research grants, or consulting fees). The speakers do not consider their presentations to be influenced by these relationships.

# Speakers who disclose that they have no relationships that could be perceived as a conflict of interest are noted with a (#). Disclosure forms are on file in the AACC office.

+ Speakers who had not returned a disclosure form by the time of printing are noted with a (+).

All speakers will have completed forms prior to the start of the Annual Scientific Meeting. A detailed handout on speaker disclosure will be distributed at the Annual Scientific Meeting.

**12:30pm–2:00pm**

**Emerging Clinical Applications of Circulating DNA Analysis**

32415
McCormick Place, S102

Level: INTERMEDIATE
CE Credit: 1.5

**MODERATOR**

*Rossa Chiu, MBBS, PhD

The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, China

**TRACK:** Genomics/Genetics

**EXPECTED OUTCOMES:** After this session, participants will be able to:

1. Describe the new technology platforms and protocols for circulating cell-free DNA analysis.
2. Describe the utilities of circulating cell-free DNA analysis for organ transplantation monitoring.
3. Explain the methodology and applications of plasma methylome analyses.
4. Describe the biological characteristics of circulating DNA.
5. Explain the clinical value of circulating cell-free DNA analysis for the detection of early cancers.

**SPEAKERS**

Circulating DNA Analysis—A Promising Noninvasive Marker for Detection of Acute Rejection and Graft Injury after Solid Organ Transplantation

*Mikhail Ovchinnik, MD, FAACC, FAMM, FRPath (RCP), FRCPath

George-August University, Goettingen, Germany

Cancer Screening by Circulating Tumor DNA Analysis Is Becoming a Clinical Reality

*Rossa Chiu, MBBS, PhD

The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, China

**SESSION OVERVIEW:** This session is intended for medical technologists, laboratory supervisors/managers, laboratory directors, and industry scientists and pathologists.

**SESSION OVERVIEW:** A viable precision medicine program addresses challenges from sample to answer, including impact on patient care. This session will present the Columbia experience in implementing a multidisciplinary precision medicine program, including assay choice, institutional workflows, billing, interpretation and reporting, molecular tumor boards, and utility review.

**EXPECTED OUTCOMES:** After this session, participants will be able to:

1. Identify the key developments in laboratory testing for precision cancer care.
2. Understand the processes implicated in the full circle of precision cancer care and the infrastructure demands in the laboratory.
3. Discuss the importance and role of multidisciplinary teams and tumor boards in precision cancer care.

**SPEAKERS**

Infrastructure Needs and Reimbursement Issues for Comprehensive Precision Cancer Testing

*Anthony Sireci, MD, MSc

Columbia University Medical Center, New York, NY

Bioinformatics Requisites for Identification and Interpretation of Genomic Alterations in Cancer

*Susan Hsiao, MD, PhD

Columbia University Medical Center, New York, NY

Selected Cases for Discussion of Utility at Multidisciplinary Tumor Boards

*Mahesh Mansukhani, MD

Columbia University Medical Center, New York, NY

**SESSION OVERVIEW:** This session is intended for emerging molecular diagnostic applications, especially in areas of cancer assessment and transplantation monitoring.

**EXPECTED OUTCOMES:** Much recent progress has been achieved in the analysis of circulating graft-derived and tumor-derived DNA. Some of these new applications have been or will soon be implemented clinically for organ transplantation monitoring and cancer screening/diagnosis. In this session, details of the clinical studies, technological and molecular approaches as well as new biological understanding of circulating DNA will be shared.

**12:30pm–2:00pm**

**Implementation of a Multidisciplinary Cancer Precision Medicine Program: An Institutional Experience**

32416
McCormick Place, S403

Level: INTERMEDIATE
CE Credit: 1.5

**MODERATOR**

#Helen Fernando, PhD

Columbia University Medical Center, New York, NY

Developed in cooperation with the Molecular Pathology Division

**TRACK:** Precision Medicine & Oncology

**EXPECTED OUTCOMES:** This session is intended for pathologists, lab directors, clinical chemists, technologists, IVD industry scientists and researchers, with an interest in emerging molecular diagnostic applications, especially in areas of cancer assessment and transplantation monitoring.
INTENDED AUDIENCE: This session is intended for clinicians, pathologists, laboratory directors, technologists, and IVD industry scientists.

SESSION OVERVIEW: This session will focus on current and future challenges facing the clinical laboratory as a result of healthcare reform, and provide guidance on how to tackle current challenges and prepare for future challenges using POCT.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Identify challenges facing the clinical laboratory and laboratory testing as a result of healthcare reform.
2. List specific strategies to enhance overall patient care using POCT.
3. Explain metrics used for continuous assessment of the effectiveness of different clinical laboratory as a result of healthcare reform, and provide guidance on how to tackle current challenges and prepare for future challenges using POCT.

SPEAKERS
POCT and the Changing Landscape of Healthcare Delivery
#Rob Hare, PhD, DABCC
Dartmouth-Hitchcock Medical Center, Lebanon, NH

Using POCT to Improve Clinical Workflow
#Edward Leung, PhD, DABCC, FAACC
The University of Chicago, IL

Laboratory Medicine 2020: Using POCT to Get Ahead of Future Care Delivery Challenges
#Brenna Sub-Ladem, PhD, DABCC, FAACC
Ann & Robert H. Lurie Children’s Hospital of Chicago/Northwestern University, Chicago, IL

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe current limitations with practicing medicine in low- and middle-income countries.
2. Compare and contrast the research in this topic area.
3. Integrate and translate state-of-the-art knowledge in this topic area into the roles and responsibilities of the clinical laboratory professional.

SPEAKERS
Spinolactone Metabolite Causes Falsely Increased Progesterone in the Abbott Architect Immunoassay
#Kaelbena Sarpong, PhD
University of Virginia, Charlottesville, VA

Calfpantothenate Antibodies With Different Binding Specificities Can Be Used as Tools to Detect Multiple Calfpantothenin Forms
#Laura-Leena-Kaisanen, PhD
Medix Biochemica, Espoo, Finland

Evaluation of Positive Frequency as a Quality Indicator for Assay Performance
#Kornelia Galior, PhD
University of Virginia, Charlottesville, VA

Comparison of the Performance of Three Modern Point-of-Care Nuclear Magnetic Resonance Urino-chemometers in the Same Patient Group: Indications for Regressive Changes in the Structure of Urine
#Andrew Hardt, PhD, DABCC, FAACC
Elite Medical Laboratory Solutions, Tomball, TX

INTENDED AUDIENCE: This session is intended for postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IVD scientists.

SESSION OVERVIEW: AACC is dedicated to advance the science and practice of laboratory medicine. A select group of members has reviewed and ranked the abstracts submitted for the AACC Annual Scientific Meeting. The Annual Meeting Organizing Committee has reviewed the accepted abstracts and has chosen five authors to present their research as oral presentations. Each 15-minute presentation will be followed by a 3-minute question-and-answer session.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe and evaluate the latest advances in laboratory medicine in this topic area.
2. Compare and contrast the research in this topic area.
3. Integrate and translate state-of-the-art knowledge in this topic area into the roles and responsibilities of the clinical laboratory professional.

SPEAKERS
Practicing Oncology in an LMIC—Limitations and Challenges
*Sooyea Baejano, MD
Liga Contra el Cáncer, Huaras, San Pedro Sula, Cortés, Honduras

Implementation of Cervical Cancer Screening: A Laboratory Perspective
*Gregory Tsongalis, PhD, HCLD
Geisel School of Medicine at Dartmouth, Lebanon, NH

INTENDED AUDIENCE: This session is intended for laboratory directors, clinical chemists, pathologists, physicians, nurses, IVD industry and those interested in providing services in low- and middle-income countries.

SESSION OVERVIEW: This session will describe the challenges of implementing and sustaining a cervical cancer screening and HPV testing program in low- and middle-income countries. Lack of adequate facilities and trained staff, cost-prohibitive therapeutics, patient access to healthcare and remote practice will be discussed as will laboratory challenges regarding developing an operational testing process. Findings from HPV genotype studies will be presented that challenge the current strategies for vaccination programs in low- and middle-income countries.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe current limitations with practicing medicine in low- and middle-income countries.
2. Evaluate the feasibility of performing molecular laboratory testing in resource-limited settings.
3. Describe implementation of a cervical cancer screening program in low- and middle-income countries.

SPEAKERS
Cervical Cancer Screening as an Example
#Carolyn Hiller, MBA
Medical Device Innovation Consortium, Arlington, VA

Surrogate Samples, When Properly Used, Decrease Time Needed for Analytical Testing and Reduce Costs for Test Development and Submission
#Marina Konstantinov, PhD
FDA, Silver Spring, MD

Implementing Cervical Cancer Screening: A Laboratory Perspective
*Gregory Tsongalis, PhD, HCLD
Geisel School of Medicine at Dartmouth, Lebanon, NH

INTENDED AUDIENCE: This is session is intended for IVD industry scientists and laboratorians developing IVD tests and submitting them for regulatory approval.

SESSION OVERVIEW: Surrogate samples, when properly used, decrease time needed for analytical testing and reduce costs for test development and submission. A framework collaboratively developed by industry and the FDA establishes a foundation for surrogate use to support innovation and product submissions. Educational materials were developed to speed patient access to innovative technology.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Define surrogate samples.
2. Utilize a defined hierarchy and points of consideration when choosing an appropriate surrogate.
3. Use a study-specific hierarchy to guide the selection of the appropriate surrogate for a specific study.

SPEAKERS
Harmonized Education: Use of Surrogate Samples in IVD Development and Regulatory Submission
*Carolyn Hiller, MBA
Medical Device Innovation Consortium, Arlington, VA

Using MDIC’s Surrogate Sample Framework: Basic Principles and using the Hierarchy
#April Vucakas, JD
Abbott Laboratory, Abbott Park, IL

Using MDIC’s Surrogate Sample Framework: Case Studies for Qualitative, Semi-Quantitative and Quantitative Tests
#Marina Konstantinov, PhD
FDA, Silver Spring, MD

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SPEAKERS
Harnessing Education: Use of Surrogate Samples in IVD Development and Regulatory Submission
*Carolyn Hiller, MBA
Medical Device Innovation Consortium, Arlington, VA

Using MDIC’s Surrogate Sample Framework: Basic Principles and using the Hierarchy
#April Vucakas, JD
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INTENDED AUDIENCE: This session is intended for lab directors, supervisors, pathologists, clinical chemists, and technologists.

SESSION OVERVIEW: Population health management is emerging as a method to aggregate clinical data and produce actionable insights. Laboratories can leverage historical and longitudinal test results to develop targeted population health management tools integrated into clinical workflows. Results of these efforts can lead to improved patient outcomes and reduced total cost of care for conditions such as prenatal care and diabetes.

EXPECTED OUTCOMES: At the conclusion of this session, participants will be able to:
1. Explain how labs can differentiate themselves now in an effort to mitigate the effect of PAMA while positioning themselves at the forefront of value-based care for the future.
2. Describe the strategies for the implementation process and outcome measures.
3. List at least three clinical outcomes associated with a laboratory-based disease management program for prenatal care.

SPEAKERS
Clinical Lab 2.0: How Laboratories Can Support Value-Based Care
#Michael Crosse, MD, PhD
TriCore Reference Laboratories, Albuquerque, NM
How Laboratories Can Support Value-Based Care for Chronic Conditions
*Kathleen Swanson, MS, RPh
TriCore Reference Laboratories, Albuquerque, NM
How Laboratories Can Support Value-Based Care for Acute Conditions
#Richard Van Ness, MS
TriCore Reference Laboratories, Albuquerque, NM

AFTERNOON 2:30pm–5:00pm
Chair’s Invited Session: Clinical Lab 2.0: How Laboratories Can Support Value-Based Care, Optimize Patient Outcomes, and Reduce Total Cost of Care in Acute and Chronic Conditions
32220 McCormick Place, S504
Level: BASIC
CE Credit: 2.5
MODERATOR
*Kathleen Swanson, MS, RPh
New Mexico, TriCore Reference Laboratories, Albuquerque, NM

TRACK: Utilization & Lab Management

INTENDED AUDIENCE: This session is intended for hospital epidemiologists, lab directors, infectious disease pediatricians, infectious disease physicians, microbiologists, pharmacists, ED doctors and all healthcare providers who wish to create, implement or improve an antimicrobial stewardship program for their healthcare institution.

SESSION OVERVIEW: The Centers for Medicare & Medicaid Services and the Joint Commission have mandated that hospitals have infection prevention and control and antibiotic stewardship programs for the surveillance, prevention, and control of healthcare-associated infections and other infectious diseases, and for the appropriate use of antibiotics. This session will clarify these mandates, discuss best practices, identify caveats in unique populations and discuss how diagnostics can be utilized by institutions to support these mandates.

EXPECTED OUTCOMES: At the conclusion of this session, participants will be able to:
1. Cite best practices for antimicrobial stewardship programs.
2. Describe the strategies for the implementation process and outcome measures.
3. Apply antimicrobial stewardship interventions for unique populations (immunocompromised, pediatrics, elderly).
4. Illustrate how diagnostics will aid with data needed to support antimicrobial stewardship in their institution.

SPEAKERS
Antibiotic Stewardship: Keeping Up with the Mandates
32221 McCormick Place, S103BC
Level: INTERMEDIATE
CE Credit: 2.5
MODERATOR
*Jamie Phillips, PhD
Roche Diagnostics, Fishers, IN

2:30pm–5:00pm
Antibiotic Stewardship: Keeping Up with the Mandates
32221 McCormick Place, S103BC
Level: INTERMEDIATE
CE Credit: 2.5
MODERATOR
*Jamie Phillips, PhD
Roche Diagnostics, Fishers, IN

AFTERNOON 2:30pm–5:00pm
Chair’s Invited Session: Clinical Lab 2.0: How Laboratories Can Support Value-Based Care, Optimize Patient Outcomes, and Reduce Total Cost of Care in Acute and Chronic Conditions
32220 McCormick Place, S504
Level: BASIC
CE Credit: 2.5
MODERATOR
*Kathleen Swanson, MS, RPh
New Mexico, TriCore Reference Laboratories, Albuquerque, NM

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SPEAKERS
Antibiotic Stewardship: Mandates and Best Practices
#Elia Mears, MS, MT(ASCP)SM
The Joint Commission, Houma, LA
Strategies for Implementing Antibiotic Stewardship Processes
#Edward Septimus, MD
Harvard Medical School/Harvard Pilgrim Health Care Institute, Houston, TX
Applying Antibiotic Stewardship Interventions for Unique Populations
#Lisa Saiman, MD, MPH
Columbia University Medical Center, New York, NY
How Diagnostics Can Support Antibiotic Stewardship Programs
*Larissa May, MD, MSPH, MSHS
University of California, Davis School of Medicine, Sacramento, CA
### SCIENTIFIC SESSIONS

#### AFTERNOON

2:30pm–5:00pm

**Medication and Pharmacogenomics:**

**Complementary Tools for Precision Medicine**

**MODERATOR**

*William Clarke, PhD, MBA, DABCC
Johns Hopkins Medical Institutions, Baltimore, MD

**TRACKS:**

**BASIC**

2:30pm–5:00pm

**Medicine & Oncology**

**TRACKS:**

**INTERMEDIATE**

2:30pm–5:00pm

**Complementary Tools for Precision Medicine: Where to Start?**

*Mark Marzinke, PhD
Johns Hopkins University School of Medicine, Baltimore, MD

**Where Traditional Therapeutic Drug Monitoring Provides Useful Information: Free Drug Monitoring and Identifying Clinically Significant Drug-Drug and Drug-Herb Interactions**

*Amitava Dasgupta, PhD, DABCC, NRCC
University of Texas at Houston Medical School, Houston, TX

**Leveraging Pharmacokinetics and Pharmacogenomics for Optimal Drug Management**

*William Clarke, PhD, MBA, DABCC
Johns Hopkins Medical Institutions, Baltimore, MD

**Complementary Tools for Precision Medicine: Where to Start?**

*Mark Marzinke, PhD
Johns Hopkins University School of Medicine, Baltimore, MD

**Where Traditional Therapeutic Drug Monitoring Provides Useful Information: Free Drug Monitoring and Identifying Clinically Significant Drug-Drug and Drug-Herb Interactions**

*Amitava Dasgupta, PhD, DABCC, NRCC
University of Texas at Houston Medical School, Houston, TX

**Leveraging Pharmacokinetics and Pharmacogenomics for Optimal Drug Management**

*William Clarke, PhD, MBA, DABCC
Johns Hopkins Medical Institutions, Baltimore, MD

**INTENDED AUDIENCE:** This session is intended for pathologists, clinical chemists, toxicologists and medical technologists.

**SESSION OVERVIEW:** This session will discuss how pharmacogenomics and TDM can be utilized to optimize treatment strategies. The session will focus on pre-emptive pharmacogenomics and well-established gene-drug pairs, as well as scenarios where genetic information may not predict therapeutic responses. Further, using case studies, drug–drug and drug–herb interactions will also be discussed, as well as strategies to combine different types of laboratory data to optimize clinical outcomes.

**EXPECTED OUTCOMES:** After attending the session participants will be able to:

1. Identify gene-drug pairs that can guide drug dosing and impact clinical outcomes.
2. Recognize gaps where genetic information may not predict phenotypic presentation.
3. Explain the impact of drug–drug or drug–herb interactions on therapeutic response.
4. Discuss strategies to integrate both genetic and drug concentration measurements in the clinical setting.

**SPEAKERS**

**Pharmacogenetics in Precision Medicine: Where to Start?**

*Mark Marzinke, PhD
Johns Hopkins University School of Medicine, Baltimore, MD

**Where Traditional Therapeutic Drug Monitoring Provides Useful Information: Free Drug Monitoring and Identifying Clinically Significant Drug-Drug and Drug-Herb Interactions**

*Amitava Dasgupta, PhD, DABCC, NRCC
University of Texas at Houston Medical School, Houston, TX

**Leveraging Pharmacokinetics and Pharmacogenomics for Optimal Drug Management**

*William Clarke, PhD, MBA, DABCC
Johns Hopkins Medical Institutions, Baltimore, MD

**INTENDED AUDIENCE:** This session is intended for pathologists, clinical chemists, laboratory technologists, fellows in clinical chemistry and pathologists.

**SESSION OVERVIEW:** Dangerous bleeding and thrombotic disorders will be covered in depth, including hemophilia, venous thromboembolism (large vessel thrombosis) and thrombotic thrombocytopenic purpura (TTP), which involves thrombosis of the microvasculature. These conditions should be recognized early because they are all amenable to treatment with a good chance of excellent recovery.

**EXPECTED OUTCOMES:** After this session, participants will be able to:

1. Explain the syndromes of the thrombotic microangiopathies (TMAs) especially TTP.
2. Create an awareness of the essential laboratory features of life-threatening thrombotic hemolytic anemias.
3. Evaluate the causes of a prolonged APTT, which can (paradoxically) signal both a life-threatening bleeding disorder and a thrombotic disorder.

**SPEAKERS**

**Hemophilia and Venous Thromboembolism: Hemorrhage versus Thrombosis**

*Niall Harris, MBChB, MD, DABCC, FCAP, FAACC
University of Florida College of Medicine, Gainesville, FL

**Systemic versus Intrarenal Thrombosis: TTP versus HUS**

*William Winter, MD, FCAP, FAACC, DABCC
University of Florida, Gainesville, FL

**INTENDED AUDIENCE:** This session is intended for pathologists, clinical chemists, medical technologists and laboratory administrators with an interest in learning how laboratories can use the R programming language to solve diverse but commonly encountered problems.

**SESSION OVERVIEW:** This session will demonstrate the versatility and power of the R statistical programming language in application to clinical laboratory medicine by showcasing tools that have been built and implemented by the speakers. Applications will cover topics of method evaluation, automated report generation and establishing reference intervals.

**EXPECTED OUTCOMES:** At the conclusion of this course, attendees should be able to:

1. Discuss features and benefits of using the R programming language in clinical laboratories.
2. Describe ways the R programming language can be used for routine method evaluation.
3. Evaluate and solve clinical laboratory problems using computational thinking.

**SPEAKERS**

**Using R for Method Evaluation Studies**

*Steve Master, MD, PhD, FCAP, FAACC
Children’s Hospital of Philadelphia, Philadelphia, PA

**Using R Markdown for Method Evaluation Reports**

*Matthew Henderson, PhD, BSc, FCACB
Newborn Screening Ontario, Ontario, ON, Canada

**Establishing Simple, Partitioned and Continuous Reference Intervals Using R**

*Christopher McCudden, PhD, DABCC, FCACB, FAACC
The Ottawa Hospital, Ottawa, ON, Canada

**INTENDED AUDIENCE:** This session is intended for pathologists, lab directors, clinical chemists, medical technologists and laboratory supervisors/managers, clinical chemists and IVD industry scientists.

**SESSION OVERVIEW:** This session, presented by laboratorians, clinicians and epidemiologists, focuses on what needs to be done to avoid patient harm related to overdiagnosis and overmonitoring. The drivers and solutions to overdiagnosis and overmonitoring and approaches to the redefinition of diseases due to the availability of new and more sensitive tests will be discussed.

**EXPECTED OUTCOMES:** After this session, participants will be able to:

1. Define the key drivers and potential solutions to overdiagnosis and overmonitoring.
2. Use evidence-based diagnostic criteria for re-definition of conditions based on laboratory testing, especially using more sensitive biomarkers.
3. Develop locally adaptable test ordering tools to reduce overmonitoring.

**SPEAKERS**

**Overdiagnosis and Overmonitoring—Drivers and Solutions**

*Alex Chin, PhD, DABCC, FAACC, FCACB
Calgary Laboratory Services/University of Calgary, Calgary, AB, Canada

**Guidance for Modifying the Definition of Diseases: A Checklist**

*Kenny Desat, MBBS, PhD
Bond University, Gold Coast, Queensland, Australia

**Methodological Approaches to Evaluating New Highly Sensitive Tests to Avoid Overdiagnosis**

*Hana Reitam, MD, PhD
University Medical Center Utrecht, Utrecht, GA, Netherlands

**Computerized Ordering Lock-Out based on Minimum Retest Intervals as a Tool to Reduce Overmonitoring**

*Theo de Malmanche, MBChB, FRACP, FRCPA
New South Wales Health Pathology, Newcastle, New South Wales, Australia

2:30pm–5:00pm

**Overdiagnosis and Overmonitoring—Can We Do Better?**

*Matthew Henderson, PhD, BSc, FCACB
Newborn Screening Ontario, Ontario, ON, Canada

**Establishing Simple, Partitioned and Continuous Reference Intervals Using R**

*Christopher McCudden, PhD, DABCC, FCACB, FAACC
The Ottawa Hospital, Ottawa, ON, Canada

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New South Wales Health Pathology, Newcastle, New South Wales, Australia
MONDAY | JULY 30

SCIENTIFIC SESSIONS

AFTERNOON

2:30pm–5:00pm
Lipoprotein-Related Precision Medicine—Implications in Risk Stratification and Emerging Therapies of Coronary Heart Disease and Aortic Valve Disease

32226
McCormick Place, S106
Level: INTERMEDIATE
CE Credit: 2.5

MODERATOR
#Jing Cao, PhD, DABCC
Baylor College of Medicine, Texas Children's Hospital, Houston, TX
Developed in cooperation with the Lipoproteins and Vascular Diseases Division

TRACK: Precision Medicine & Oncology

INTENDED AUDIENCE: This session is intended for laboratory professionals including lab directors, lab managers or supervisors, scientists and technologists practicing in hospitals with large cardiovascular disease patient populations, as well as professionals from the IVD industry with an interest in lipoprotein assays.

SESSION OVERVIEW: Lipoproteins are becoming the focus of the precision medicine in the management of highly prevalent cardiovascular diseases in the U.S. population. This proposal covers the topics of apolipoprotein assay utilization, methodologies of lipoprotein(a) assays, and novel dyslipidemia treatment targeting lipoproteins, and will discuss the advances in the field of lipoproteins and vascular complications.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Compare the clinical utility of standardized apoB and apoA assays to LDL-C and non-HDL-C assays.
2. Describe methodologies used in currently available Lp(a) assays and summarize factors to be considered when choosing an assay and discuss clinical cases relevant to Lp(a).
3. Recognize novel dyslipidemia therapies and discuss how clinical laboratories would respond to these emerging pharmaceutical agents in the era of precision medicine.

SPEAKERS
Point/Counter Point Panel Debate, Introduction: Does Apolipoprotein Have Additional Clinical Utility over Standard Cholesterol Measurements in Cardiovascular Disease Risk Assessment?
#Jing Cao, PhD, DABCC
Baylor College of Medicine, Texas Children's Hospital, Houston, TX

Point/Counter Point Panel Debate, Point: Cholesterol Measurement Is Sufficient to Assess Cardiovascular Disease Risk
*Sridevi Devangar, PhD, DABCC
Baylor College of Medicine, Texas Children's Hospital, Houston, TX

Point/Counter Point Panel Debate, Counter Point: Apolipoproteins When Measured in Conjunction with Cholesterol Improve Cardiovascular Disease Risk Prediction
*Michael Tse, MS, PhD
University of Minnesota, Eden Prairie, MN

Case Studies: Varying Analytical Methods for the Size-Variable Lipoprotein(a)
*Santica Marcovina, PhD
University of Washington, Seattle, WA

No Longer Lonely—Emerging Dyslipidemia Treatment besides Statin in the Era of Precision Medicine
#Alan Remaley, MD, PhD
National Institutes of Health, Bethesda, MD

2:30pm–5:00pm
The Burden of Proof: Understanding Impacts of Laboratory Testing and Technology

32227
McCormick Place, S101B
Level: INTERMEDIATE
CE Credit: 2.5

MODERATOR
#Frederick Strathmann, PhD, MBA, DABCC (CC, TC)
NMS Labs, Willow Grove, PA

TRACK: Toxicology/TDM

INTENDED AUDIENCE: This session is intended for pathologists, lab directors, clinical chemists, technologists, IVD industry scientists, trainees, forensic scientists, quality assurance staff and legal professionals.

SESSION OVERVIEW: This session will compare numerous aspects of clinical and forensic testing. Topics will include similarities and differences between clinical and forensic toxicology laboratories, rigor and expertise behind scientific support in forensic matters, the use of NGS in forensic DNA cases, and numerous examples of forensic and clinical science where the scientific process has failed to support accepted and applied principles.

EXPECTED OUTCOMES: At the completion of this session, participants will be able to:
1. Demonstrate a basic understanding of available technologies presented and how they can be applied in both clinical and forensic settings.
2. Evaluate the requirements for expert testimony and potential gaps with those currently operating in this arena.
3. Summarize the key reasons why proposed scientific advances have failed to effectively translate into routine use.

SPEAKERS
Clinical versus Forensic Toxicology: Finding Our “Deferences”?
#Frederick Strathmann, PhD, MBA, DABCC (CC, TC)
NMS Labs, Willow Grove, PA

Lack of Scientific Rigor: Examples from the Worlds of Clinical and Forensic Science
#Laura Labay, PhD, F-ABFT
NMS Labs, Willow Grove, PA

Next-Generation Sequencing: Comparisons and Distinctions of Use in Clinical versus Forensic Science
#Richard Guerrieri, MS
Battelle Memorial Institute, Columbus, OH

Is Scientific Knowledge Enough in Forensic Opinions: Are Clinical Laboratory Scientists Prepared for Legal Matters?
#Jennifer Collins, PhD, F-ABFT
MedTox, St. Paul, MN
**Session Overview:**
This session will help clinical laboratories understand the history, pathologists, physicians, and medical technologists.

**Expected Outcomes:**
1. Describe the basic process for validation of laboratory-developed tests.
2. Discuss the essential and general considerations for the validation of LDTs.
3. List the common do's and don'ts for validation of LDTs in house.
4. Apply effective approaches in validating LC-MS/MS-based LDTs in house.

**INTENDED AUDIENCE:** This session is intended for laboratory directors, clinical chemists, laboratory administrators, laboratory managers and supervisors, IVD industry scientists, pathologists, physicians, and medical technologists.

**SESSION OVERVIEW:**
This session will help clinical laboratories understand the history, development and perspectives of validation for laboratory-developed tests. Speakers will present risk-based model for the validations and real-life examples based on the New York State reviews of LDTs to provide insights into proper validation processes for LDTs.

**EXPECTED OUTCOMES:** At the completion of this session, participants will be able to:
1. Describe the basic process for validation of laboratory-developed tests.
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**Speakers:**
- **Laboratory-Developed Tests: Where We've Been and How Did We Get to Where We Are Today?**
  - Robert Raj, PhD
  - Wadsworth Center for Laboratory Research, New York State Department of Health, Albany, NY

- **Validation of Laboratory-Developed Tests: The Dos and Don'ts**
  - Y. Victoria Zhang, PhD, MBA, DABCC, FAACC
  - University of Rochester Medical Center, Rochester, NY

- **Using a Risk-Based Evaluation of LDTs to Assure Analytical and Clinical Validity: The NYS Experience**
  - Erasmus Schneider
  - Wadsworth Center/New York State Department of Health, Albany, NY

- **Validation of LC-MS/MS-Based Laboratory-Developed Tests: The Don'ts**
  - Zhipeng (Tim) Cao, MD, PhD, DABCC, FAACC
  - Wadsworth Center, Albany, NY

**Speakers:**
- **Experience Using a Risk-Based Evaluation of LDTs to Assure Analytical and Clinical Validity: The NYS Development and Perspectives of Validation for Laboratory-Developed Tests**
  - Robert Rej, PhD
  - Wadsworth Center for Laboratory Research, New York State Department of Health, Albany, NY

**Speakers:**
- **Laboratory-Developed Tests: Where We've Been and How Did We Get to Where We Are Today?**
  - Robert Raj, PhD
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- **Validation of Laboratory-Developed Tests: The Dos**
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- **Validation of LC-MS/MS-Based Laboratory-Developed Tests: The Don'ts**
  - Zhipeng (Tim) Cao, MD, PhD, DABCC, FAACC
  - Wadsworth Center, Albany, NY

**Speakers:**
- **AACC Disruptive Technology Award Competition**
  - Supported by LabCorp, Northwestern INVO, Siemens Healthineers

**Judges:**
- **David Deetz, Founder and CTP, Ativa Medical**
  - Ativa has developed a revolutionary fluid processing engine that allows its MicroLAB to perform the full analytical processes utilized in large lab blood analyzers entirely on a low-cost disposable card. The significance of this breakthrough is that it enables the major test panels that form the backbone of blood testing to be performed by medical staff at the point of care. Clinics will be able to do real-time testing themselves rather than waiting for a day or more for the traditional blood send-out process.

- **Lars Ullerich, PhD, MBR, Managing Director, Business Development, GNA Biosolutions GmbH**
  - GNA Biosolutions has created a platform technology, Pulse Controlled Amplification (PCA), which enables 1,000,000 times faster temperature ramps in nucleic acid amplification. Faster temperature ramps allow amplification reaction times that are at least 10 times faster than conventional methods. Furthermore, PCA makes it possible to perform clinical samples without additional DNA purification and extraction steps. Dangerous pathogens can be detected by PCA in non-traditional testing environments within minutes, with the sensitivity and specificity of laboratory-based molecular diagnostics.

- **Trevor Morin, CSO, Two Pore Guys**
  - 2PG is developing a small (6 inch x 6 inch) diagnostic device that allows the detection of any molecular of interest, including nucleic acids, proteins, metabolites, drugs, and small molecules. The technology employs solid-state nanopores that allow single molecule counting using purely electrical sensing, obviating the need for optics, chemistries, or electrochemical sensors.
PLENARY SESSION
8:45am–10:15am
McCormick Place, Grand Ballroom/S100

HPV-Associated Cancers and the HPV Vaccine

SPEAKER: Denise Galloway, PhD
Fred Hutchinson Cancer Research Center, Seattle, WA

13001
Level: BASIC | CE Credit: 1.0

INTENDED AUDIENCE: This session is intended for pathologists, lab directors, clinical chemists, medical laboratory scientists and laboratory administrators with an interest in pathogen-associated cancer and development of protect vaccines.

SESSION OVERVIEW: This session highlights the discovery that human papillomaviruses (HPVs) cause cervical and other cancers. In just 25 years, this discovery led to the development of HPV vaccines (Gardasil 9® and Cervarix®). Dr. Galloway will review the history of HPV vaccine development, especially the work needed to meet U.S. FDA regulations and the importance of achieving herd immunity. Future work includes improving efficacy, assessing the adequacy of initial vaccination, vaccinating males, assessing need for boosters, reducing cost and improving international availability.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Explain the role of HPV in the development of cervical cancer.
2. Assess the work involved in obtaining FDA approval for the HPV vaccine.
3. Describe future work needed for HPV vaccine improvement.
Brown Bag sessions are presented twice daily. Attendance is limited to 10 participants per session. Advance registration and session fees are required. AACC does not provide meals for these sessions. You will be able to purchase your own food in the Brown Bag sessions twice daily. Attendance is limited to 10 participants per session. Advance registration and session fees are required. AACC does not provide meals for these sessions. You will be able to purchase your own food in the

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<th>SESSION #</th>
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| OSHA Safety Programs You Need to Know | 43101 | 53201 | INTERMEDIATE |
| How People Try to Beat Drug Testing and Defend Positive Results | 43102 | 53202 | BASIC |
| Integrating Preanalytical Quality Indicators for Laboratory Testing Efficiency | 43103 | 53203 | INTERMEDIATE |
| The Quest for Quality through Competency Assessment | 43104 | 53204 | INTERMEDIATE |
| How to Select and Utilize an Appropriate Method for Testosterone Testing | 43105 | 53205 | INTERMEDIATE |
| Emergency Department Workflows: Data-Driven Approaches to Common Questions | 43106 | 53206 | BASIC |
| Current Challenges of PTH Testing and Approaches to Developing a Reference Measurement Procedure | 43107 | 53207 | INTERMEDIATE |
| There's No Place Like Home: Exploring Hospital at Home Care Strategies | 43108 | 53208 | BASIC |
| HIV Diagnostics: Past, Present and Future | 43109 | 53209 | INTERMEDIATE |
| Pharmacogenomics in Laboratory Medicine: Moving to an Era of Precision Medicine | 43110 | 53210 | INTERMEDIATE |
| Method Validations: Plan Development and Data Evaluation | 43111 | 53211 | BASIC |
| Overview and Recent Recommendations for Bone Turnover Markers | 43112 | 53212 | BASIC |
| Emerging Trends in Autoimmune and Paraneoplastic Encephalopathy Testing | 43113 | 53213 | BASIC |
SESSION OVERVIEW: This session provides an excellent opportunity for a limited number of attendees to meet with Dr. Denise Galloway, an expert in pathogen-associated malignancies. Her fascination with the idea that a virus could lead to cancer by sparking changes within cells led her to study the human papillomavirus, or HPV, and to make breakthrough contributions to a vaccine that prevents HPV and averts tens of thousands of cervical cases each year. Dr. Galloway will discuss her role in these discoveries and her ongoing efforts to understand, treat and prevent cancers caused by other pathogens.

SPEAKER
Denise Galloway, PhD
Fred Hutchinson Cancer Research Center, Seattle, WA

SPEAKERS
*Robert Schmidt, MD, PhD, MBA
ARUP Laboratories/University of Utah, Salt Lake City, UT

INTENDED AUDIENCE: This session is intended for pathologists, laboratory directors, clinical chemists, technologists and IVD industry scientists.

SESSION OVERVIEW: Thyroglobulin (Tg) and anti-Tg autoantibody (TgAb) measurements are central to long-term follow-up for thyroid cancer. The introduction of mass spectrometry-based methods has revealed limitations of current assays. This session will discuss pros and cons of Tg and TgAb methods. Clinical scenarios involving TgAb positive and negative patients will be discussed.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe how different thyroglobulin (Tg) assays are affected by the presence of anti-Tg autoantibodies (TgAb).
2. Discuss the analytical performance of various TgAb assays.
3. Compare the clinical performance of available Tg assays in the presence and absence of TgAb.

SPEAKERS
Thyroglobulin Measurement: Is There Really a Perfect Assay?
*Aliça Algêsra-Schimmel, PhD, DABCC, FAACC
Mayo Clinic, Rochester, MN

What’s TgAb Got to Do with it? The Role of Autoantibodies in Thyroglobulin Measurement
Joely Strasak, PhD, DABCC, FAACC
ARUP Laboratories/University of Utah, Salt Lake City, UT

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INTENDED AUDIENCE: This session is intended for laboratory managers, pathologists, laboratory directors, healthcare system administrators and health information managers.

SESSION OVERVIEW: This session will describe advanced concepts and emerging strategies that improve patient outcomes and reduce errors. Topics include benefits of forming partnerships with other healthcare providers to manage the opioid crisis, use of patient registries, value of inter-institutional benchmarking, cost-effective analysis, and techniques for designing utilization studies.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Understand emerging systems and strategies for achieving value-based utilization management.
2. Describe the benefit of forming partnerships with other healthcare providers to manage testing practices that improve outcomes and reduce diagnostic error.
3. Design utilization studies and know when and when not to conduct a study.
4. List an example of how the use of laboratory information systems improves diagnosis and evidence-based medical practice.

SPEAKERS
Emerging Laboratory Utilization Systems Aimed at Improving Outcomes
*Ron Schifman, MD
Southern Arizona VA Healthcare System, Tucson, AZ

Inter-Facility Benchmarking and Meaningful Design of Utilization Studies
*Robert Schmidt, MD, PhD, MBA
University of Utah, Salt Lake City, UT

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*Ron Schifman, MD
Southern Arizona VA Healthcare System, Tucson, AZ

Inter-Facility Benchmarking and Meaningful Design of Utilization Studies
*Robert Schmidt, MD, PhD, MBA
University of Utah, Salt Lake City, UT
TUESDAY | JULY 31

SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm

**Standardization of Traditional and New Cardiovascular Disease Biomarkers—Addressing Cholesterol and Beyond**

*Brad Karon, MD, PhD, FCAP, FAACC

McCormick Place, S103A

Level: INTERMEDIATE

CE Credit: 1.5

MODERATOR

#Uliana Danilenko, PhD

Centers for Disease Control and Prevention, Atlanta, GA

Developed in cooperation with the IFCC Scientific Division and IFCC Apolipoproteins by Mass Spectrometry Working Group

**INTENDED AUDIENCE:** This session is intended for clinical chemists, assay manufacturers, lab directors, industry scientists, and laboratory supervisors and managers.

**SESSION OVERVIEW:** This session will examine the current state of standardization of traditional and new cardiovascular disease biomarkers focusing at advanced lipoprotein testing.

**EXPECTED OUTCOMES:** After this session, participants will be able to:

1. Summarize the programs and materials available to improve total cholesterol, total glycerides, HDL-C and LDL-C measurements.
2. Identify the challenges in standardization of conventional and advanced lipoprotein testing and describe the outcome of recent cross-platform comparison studies.
3. Describe advancements in using mass spectrometry for apolipoproteins quantification and profiling, including update on development of reference measurement procedure.

**SPEAKERS**

Update on CDC Cardiovascular Disease Biomarker Standardization Programs

#Uliana Danilenko, PhD

Centers for Disease Control and Prevention, Atlanta, GA

Standardization of Advanced Lipoprotein Testing: The BioSiTrace project

#Vincent Delatour, PhD

LNE, Paris, France

Mass Spectrometry-Based Approach for the Quantification and Profiling of Apolipoproteins

Christa Cobbaert, PhD, EdD, LM

Leiden University Medical Center, Leiden, Netherlands

**EXPECTED OUTCOMES:**

1. Describe advancements in using mass spectrometry for apolipoproteins quantification and profiling, including update on development of reference measurement procedure.
2. Identify the challenges in standardization of conventional and advanced lipoprotein testing and describe the outcome of recent cross-platform comparison studies.
3. Describe additions in using mass spectrometry for apolipoproteins quantification and profiling, including update on development of reference measurement procedure.
TUESDAY | JULY 31

MORNING

10:30am–12:00pm

Invited Oral Abstracts: Mass Spectrometry
33109
McCormick Place, S403
Level: INTERMEDIATE
CE Credit: 1.5

INTENDED AUDIENCE: This session is intended for postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IVD scientists.

SESSION OVERVIEW: AACC is dedicated to advance the science and practice of laboratory medicine. A select group of members has reviewed and ranked the abstracts submitted for the AACC Annual Scientific Meeting. The Annual Meeting Organizing Committee has reviewed the accepted abstracts and has chosen five authors to present their research as oral presentations. Each 15-minute presentation will be followed by a 3-minute question-and-answer session.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe and evaluate the latest advances in technology in this topic area.
2. Interpret and contrast the research in this topic area.
3. Integrate and translate state-of-the-art knowledge in this topic area into the roles and responsibilities of the clinical laboratory professional.

SPEAKERS

#Kornelia Galior, PhD
Retrospective Review of Infliximab Quantitation and Anti-infliximab Test Results
Covance Central Laboratory Services, Indianapolis, IN
Mayo Clinic, Rochester, MN

#Mindy Clark Kohlhagen, BS
Clinical Laboratory
Automating a MALDI-TOF Mass Spectrometry Replacement of Gel Electrophoresis in the University of Virginia, Charlottesville, VA

3. Define methods, opportunities and challenges for viral and bacterial whole-genome sequencing for transmission/infection control.

SESSION OVERVIEW: There's a lot of excitement for real-time next-generation sequencing as the next big thing for the clinical microbiology. This session will separate the hype from the hope for these technologies for clinical infectious diseases with a focus on metagenomics and viral/bacterial WGS.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Define methods, opportunities and challenges for viral and bacterial whole-genome sequencing for transmission/infection control.
2. Define methods, opportunities and challenges for viral and bacterial whole-genome sequencing for antimicrobial resistance.

SPEAKERS

#Jane Dickerson, PhD, DBACC
Viral/Bacterial Whole-Genome Sequencing for Real-Time Transmission Detection
Children's Hospital Los Angeles, Los Angeles, CA

#Samia Naccache
Metagenomics for Clinical Infectious Diseases
University of Washington and Seattle Children's Hospital, Seattle, WA

3. Define methods, opportunities and challenges for real-time next-generation sequencing as the next big thing for the clinical microbiology.

SESSION OVERVIEW: This interactive session will provide a "speed-dating" format for discussing specific pain points related to technologies in the lab (POC, LIS, automation). Attendees will rotate between four tables every 20 minutes. While attendees are at each table, they will pair up and discuss two pre-defined scenarios, which will be followed by a high-level summary and further discussion.

EXPECTED OUTCOMES: After attending this session, participants will be able to:
1. Analyze lab to POC comparisons and effectively communicate the meaning to providers.
2. Identify integrated automation strategies to optimize intra-laboratory specimen management and transport.
3. Evaluate approaches for three common challenges in validation and maintenance of lab-developed tests.
4. Recognize common challenges with LIS and strategies to integrate middleware effectively.

SPEAKERS

#Alex Greninger
Lab-Developed Test Validation: Tips to Avoid Major Roadblocks in Implementation
University of North Carolina, Chapel Hill, NC

#Steven Cotten, PhD, DABCC
Lab-Developed Test Validation: Tips to Avoid Major Roadblocks in Implementation

*Corrine Fantz, PhD, DABCC
Roche Diagnostics Corporation, Indianapolis, IN

Move It Along: Within-Laboratory Specimen Management at the Preanalytical and Analytical Interface
*Mark Marzinke, PhD
Johns Hopkins University School of Medicine, Baltimore, MD

Making Meaningful Connections: Learning to Love Your LIS Despite Its Flaws
#Nathan Cotten, PhD, DABCC
The University of North Carolina, Chapel Hill, NC

3. Recognize common challenges with LIS and strategies to integrate middleware effectively.

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2. Identify integrated automation strategies to optimize intra-laboratory specimen management and transport.
3. Evaluate approaches for three common challenges in validation and maintenance of lab-developed tests.
4. Recognize common challenges with LIS and strategies to integrate middleware effectively.

SPEAKERS

#Alex Greninger
Lab-Developed Test Validation: Tips to Avoid Major Roadblocks in Implementation

*Corrine Fantz, PhD, DABCC
Roche Diagnostics Corporation, Indianapolis, IN

Move It Along: Within-Laboratory Specimen Management at the Preanalytical and Analytical Interface
*Mark Marzinke, PhD
Johns Hopkins University School of Medicine, Baltimore, MD

Making Meaningful Connections: Learning to Love Your LIS Despite Its Flaws
#Nathan Cotten, PhD, DABCC
The University of North Carolina, Chapel Hill, NC

3. Recognize common challenges with LIS and strategies to integrate middleware effectively.

SESSION OVERVIEW: This interactive session will provide a "speed-dating" format for discussing specific pain points related to technologies in the lab (POC, LIS, automation). Attendees will rotate between four tables every 20 minutes. While attendees are at each table, they will pair up and discuss two pre-defined scenarios, which will be followed by a high-level summary and further discussion.

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TUESDAY | JULY 31
SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm
Guidance for Evaluating the Hypoxemic Patient in the Critical Care Setting

33122
McCormick Place, S504
Level: INTERMEDIATE
CE Credit: 1.5

MODERATOR
*John Toffaletti, PhD, DABCC
Duke University Health System, Durham, NC

TRACK: Point-of-Care Testing

INTENDED AUDIENCE: This session is intended for pathologists, clinicians, laboratory professionals, and persons from industry who desire to develop or refine their understanding and clinical use of oxygen measurements and oxygen-related calculations.

SESSION OVERVIEW: Despite the frequency of measurement and physiologic importance of oxygen, laboratory professionals are often not familiar with how \( pO_2 \), \( \%Hb \), \( \text{Hb} \) and other measurements are used to calculate oxygen-related parameters, such as \( O_2 \) delivery, \( A-a \) difference, \( pO_2/\text{FiO}_2 \) ratio, oxygenation index, and how the clinician uses them to evaluate and monitor hypoxemia, pulmonary ventilation, and perfusion in critically ill patients.

This session will be presented by a laboratory director and a practicing critical care physician to provide clinical, pathophysiologic, and practical information that will allow the participant to understand the important pre-analytical factors in these measurements, and how to calculate and interpret oxygen and oxygen-related parameters for diagnosing and managing patients in critical care settings.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe the conformational changes of \( Hb \) that alter its oxygen binding and releasing functions.
2. Evaluate \( pO_2 \), \( \%O_2 \), \( Ka \), \( \text{Hb} \) measurements in patients breathing room air and oxygen-supplemented air, and in those patients on ventilators and ECMO (extracorporeal membrane oxygenation).
3. Develop skill in evaluating \( pO_2 \), \( \%O_2 \), \( pCO_2 \) and oxygen-related calculations for determining the adequacy of arterial oxygenation and ventilation by the lungs.
4. Use blood gas and cooximetry results to calculate alveolar-arterial \( pO_2 \) difference, \( pO_2/\text{FiO}_2 \) ratio, and evaluate pulmonary ventilation/perfusion (V/Q) balance.
5. Understand the pitfalls in handling samples for blood gas analysis.
6. Describe how a clinician uses these oxygen and oxygen-related calculations to evaluate and monitor patients for possible hypoxemia and hypoxia in critical care settings.
7. Describe how oxygen measurements and oxygen-related calculations are used in determining when a patient should be placed on nasal cannula, non-invasive ventilation, mechanical ventilation or ECMO.

SPEAKERS
Providing Accurate Measurements of Oxygen and Oxygen-Related Parameters for Assessing Hypoxemia and Oxygen Physiology
*John Toffaletti, PhD, DABCC
Duke University Health System, Durham, NC

Clinical Use of Oxygen-Related Measurements and Calculations to Guide Patient Management
Craig Rackley, MD, ABIM
Duke University Medical Center, Durham, NC

2:30pm–4:00pm
Invited Oral Abstracts: Molecular Diagnostics and Genomics

33212
McCormick Place, S402
Level: INTERMEDIATE
CE Credit: 1.5

INTENDED AUDIENCE: This session is intended for postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IVD scientists.

SESSION OVERVIEW: AACC is dedicated to advance the science and practice of laboratory medicine. A select group of members has reviewed and ranked the abstracts submitted for the AACC Annual Scientific Meeting. The Annual Meeting Organizing Committee has reviewed the accepted abstracts and has chosen five authors to present their research as oral presentations. Each 15-minute presentation will be followed by a 3-minute question-and-answer session.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe and evaluate the latest advances in laboratory medicine in this topic area.
2. Compare and contrast the research in this topic area.
3. Integrate and translate state-of-the-art knowledge in this topic area into the roles and responsibilities of the clinical laboratory professional.

SPEAKERS

Absolute Quantification of Graft-Derived Cell-Free DNA as a Marker of Rejection and Graft Injury in Kidney Transplantation—Results From a Prospective Observational Trial
Michael Oellerich, MD, FRCP, FAACC
University Medical Center Goettingen, Goettingen, Germany

Rabe Al-Turkmani, PhD, DABCC, FAACC
Dartmouth-Hitchcock Medical Center and Geisel School of Medicine at Dartmouth, Lebanon, NH

Exosomal Long Non-coding RNA HOTTIP as a Novel Serum-based Biomarker for Diagnosis and Prognosis of Gastric Cancer
Xiang Zhang, PhD
Qilu Hospital of Shandong University, Jinan, China

Development of a Type 1 Diabetes Genetic Risk Array
*R. Yadef, PhD
Randox Laboratories Ltd, Crumlin, United Kingdom

Monitoring EGFR Mutations in cfDNA During Different Treatment Lines in Non-Small-Cell Lung-Cancer (NSCLC) Patients
Alvaro Gonzalez, PhD
Clínica Universidad de Navarra, Pamplona, Spain

2:30pm–5:00pm
Leadership Strategies: Cultivating Engagement through Leadership

33213
McCormick Place, S101B
Level: BASIC
CE Credit: 2.5

MODERATOR
#Cherie Petersen, BA
ARUP Laboratories, Salt Lake City, UT

INTENDED AUDIENCE: This session is intended for postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and laboratory professionals in leadership positions or those who aspire to be in a leadership role. Additionally, managers who want to move beyond tedious micro-managing into creating a committed and engaged workforce who will become our industry’s future leaders should attend this short course.

SESSION OVERVIEW: Inherent in management positions is the responsibility to lead, but what are often lacking are the critical attributes of becoming a great leader. “Responsibility” without “ability” clearly distinguishes the not-so-good leaders from the exceptional ones. Session attendees will take away new leadership skills to unlock their employees’ true engagement potential.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Define the responsibilities and abilities of great leaders.
2. Explain critical key attributes for leading and inspiring employees.
3. Identify strategies for developing engaged employees who perform meaningful work.

SPEAKER
Leadership Strategies: Cultivating Engagement Through Leadership
#Cherie Petersen, BA
ARUP Laboratories, Salt Lake City, UT
INTENDED AUDIENCE: This session is intended for pathologists, lab directors, clinical chemists, technologists, IVD industry scientists, residents and trainees.

SESSION OVERVIEW: This scientific session will focus on the application of technologies throughout the testing process. Highlights include (1) heuristic and machine learning approaches to figuring out who to test; (2) applications of mass spectrometry in rapid analysis techniques, novel multiplexing strategies, untargeted analyses and the leveraging of resultant data; and (3) pre-analytical problems and emerging technologies applied to reduce the risk of erroneous results.

EXPECTED OUTCOMES: At the completion of this session, participants will be able to:

1. Demonstrate a basic understanding of available technologies presented (machine learning, mass spectrometry and clinical laboratory automation) and how they can be applied during critical phases of the test process.
2. Evaluate available solutions in order to compare and contrast current practices with potential and emerging technologies.
3. Summarize the key phases of the testing process where technological solutions are of benefit.

SPEAKERS

- Identifying and Resolving Pre-Analytic Errors through Technology, Automation and Innovation
  *Jonathan Genzen, MD, PhD
  University of Utah/ARUP Laboratories, Salt Lake City, UT

- How-To Guides for Greater Capacity, Higher Quality and Analytical Efficiency—Leveraging Novel Technologies and Quality Strategies
  *Frederick Strathmann, PhD, MBA, DABCC (CC, TC)
  NMS Labs, Willow Grove, PA

- Data-Driven Approaches to Improve Test Interpretation and the Identification of Patients for Testing
  #Daniel Herman, MD, PhD
  University of Pennsylvania Perelman School of Medicine, Philadelphia, PA

2:30pm-5:00pm

Bridging the Gaps between Laboratory Medicine and Clinical Decision Making: Challenges and Conundrums

33215
McCormick Place, S103BC

Level: INTERMEDIATE
CE Credit: 2.5

MODERATOR
*Frederick Strathmann, PhD, MBA, DABCC (CC, TC)
NMS Labs, Willow Grove, PA

INTENDED AUDIENCE: This session is intended for technologists, clinical chemists, lab directors and pathologists.

SESSION OVERVIEW: This session will present a mix of theory and practical case examples to illustrate a number of important laboratory topics and how we can communicate these to clinicians. Laboratory topics will include different types of interferences, clinical cut-points and reference intervals, standardization, traceability and uncertainty of measurement, and external quality control to establish bias and accuracy.

EXPECTED OUTCOMES: After this session, participants will be able to:

1. Describe concepts of traceability and uncertainty of measurement.
2. State how the laboratory establishes bias and accuracy.
3. Describe appropriate and inappropriate use of clinical cut-points and reference intervals.
4. Explain different types of interferences in general chemistry and endocrine immunoassay testing and how these can be circumvented or investigated.
5. Discuss these items in an informed way with physicians.

SPEAKERS

- Clinical Cut-Points and Reference Intervals in the Clinical Laboratory: A Case-Based Perspective of Issues in Clinical Practice
  *Patrick Twomey, BSc, MB BCh BAO, FRCPath, FFPath (RCPI)
  St. Vincent's University Hospital, Dublin, Ireland

- Standardization in the Clinical Laboratory: A Case-Based Perspective of Why We Should Aim for Standardization
  *Andrew Don-Wauchope, MBChB, BScMed(Hons), MD, FRCP Edin, FCPath(SA), FRCPath
  McMaster University, Toronto, ON, Canada

- Case-Based Investigation of Interferences in General Chemistry and Endocrine Testing
  #Tahir Pillay, MD, PhD
  University of Pretoria, Pretoria, Gauteng, South Africa

Communicating with Physicians: Case-Based Examples of Clinically Relevant Discussions
#Janet Simons, MD, FRCPC
University of British Columbia, Vancouver, BC, Canada
**INTENDED AUDIENCE:** This session is intended for pathologists, lab directors, clinical chemists, IVD industry scientists, regulators and metrologists.

**SESSION OVERVIEW:** Non-harmonized laboratory results can lead to misclassification of disease conditions and erroneous patient care decisions. Reference systems can be difficult to implement due to technical limitations of reference measurement procedures and reference materials, as well as to regulatory requirements. This session will address how to develop a reference system, the role of a harmonization protocol and how to address regulatory challenges.

**EXPECTED OUTCOMES:** At the completion of this session, participants will be able to:
1. Demonstrate how reference system components are used to achieve harmonized results.
2. Demonstrate how to implement a harmonization protocol to achieve harmonized results.
3. Demonstrate how to address regulatory requirements for modifying calibration to achieve harmonized results.
4. Demonstrate how to develop a plan to implement a calibration traceability process for a new measurand.

**SPEAKERS**

- **Regulatory Challenges in Achieving Harmonization of Results**
  - Gary Myers, PhD
  - Myers Consulting, Smyrna, GA

- **How to Implement a Harmonization Protocol in the Absence of Higher Order Reference System Components**
  - W. Greg Miller, PhD, DABCC
  - Virginia Commonwealth University, Richmond, VA

- **How to Develop a Reference System: The Example Urine Albumin**
  - Lorin Bachmann, PhD, DABCC
  - Virginia Commonwealth University, Richmond, VA

**EXPECTED OUTCOMES:**
1. Explain the process and methods for rapid intervention when hiccups occur with go-live during the go-live phase.
2. Discuss strategies and solutions to minimize or prevent potential go-live problems.
3. Explain the process and methods for rapid intervention when hiccups occur with go-live events.

**SPEAKERS**

- **Too Many Hyponatremic Patients?**
  - Stephen Master, MD, PhD, FCAP, FAACC
  - Children’s Hospital of Philadelphia, Philadelphia, PA

- **Are You Feeding Your Instruments with the Right Water?**
  - Qing Meng, MD, PhD, DABCC, FCACB
  - The University of Texas MD Anderson Cancer Center, Houston, TX

- **Maximizing Laboratory Efficiencies by Implementing Front-End Automation**
  - Zhen Zhao, PhD, DABCC, FAACC
  - Weill Cornell Medicine, New York, NY

- **LIS, HIS and Middleware Planning for a Successful Instrument Go-Live**
  - Joshua Hayden, PhD, DABCC
  - Weill Cornell Medical College, New York, NY

**INTENDED AUDIENCE:** This session is intended for all users of LC-MS/MS, particularly those involved in both method development and clinical operations.

**SESSION OVERVIEW:** Method development of liquid chromatography-tandem mass spectrometry encompasses a variety of esoteric techniques which may be difficult to apply cohesively. This session will focus on scientific approaches to optimize and enhance the LC component—the workhorse—of LC-MS/MS. The course will describe rational method development techniques, focusing specifically on: Solvent system selection (empirical screening) for improved detection limits, including use of additives and modifiers, column screening for and step-wise optimization of both Reverse Phase and Hydrophilic Interaction LC, ID versus 2D LC setups (when and how to use), gradient versus isocratic LC (benefits and pitfalls), cycle time optimization (throughput), and techniques to enhance overall ruggedness for targeted diagnostic LC-MS/MS workflows.

**EXPECTED OUTCOMES:** After this session, participants will be able to:
1. Describe and execute new experimentation to improve the sensitivity of LC-MS/MS assay.
2. Describe and execute new experimentation to improve ruggedness for clinical use of LC-MS/MS workflows.
3. Be able to scientifically determine conditions for optimal chromatographic analyses.

**SPEAKERS**

- **Navigating through Go-Live “Hiccups” with Instrumentation, Automation and Informatics: An Application Showcase**
  - Brian Rappold
  - LabCorp, Raleigh, IL

- **Automation and Informatics: An Application Showcase**
  - Zhen Zhao, PhD, DABCC, FAACC
  - Weill Cornell Medicine, New York, NY

- **LIS, HIS and Middleware Planning for a Successful Instrument Go-Live**
  - Joshua Hayden, PhD, DABCC
  - Weill Cornell Medical College, New York, NY
INTENDED AUDIENCE: This session is intended for pathologists, lab directors, clinical chemists, technologists and IVD industry scientists. The session is also well suited for trainees in clinical chemistry, molecular diagnostics and pathology. Basic knowledge of molecular biology is helpful. No formal cardiovascular, genomics or bioinformatics training is necessary.

SESSION OVERVIEW: Genomic medicine is transforming healthcare; however, many healthcare professionals receive limited genomics training. Laboratorians can play an important role improving patient care in genomics. Using cardiovascular disease cases and an interactive small-group approach, participants will learn introductory principles related to applying and interpreting genomic testing. (http://www.pathologylearning.org/trg/resources).

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Identify central applications and interpretive considerations of cardiovascular genomics testing.
2. Determine a variant’s clinical significance using online tools.
3. Critically evaluate the benefits and limitations of genomic testing in the context of patient care.
4. Understand the significance of incidental findings that may arise from genomic testing.

SPEAKERS
Genomic Case Exercises
#Helen Fernandes, PhD
Columbia University Medical Center, New York, NY
Exploring Exome Sequencing with a Case Example
#Christina Lockwood, PhD, DABCC, DABMGG
University of Washington, Seattle, WA
An Innovative Approach to Teaching Genomic Medicine
#Richard Haspel, MD, PhD
Beth Israel Deaconess Medical Center, Boston, MA
The Utility of Next-Generation Sequencing Studies in Cardiac Disease
#Anjali Owens, MD
University of Pennsylvania, Philadelphia, PA

2:30pm–5:00pm
The Good, the Bad and the Ugly: Opportunities and Challenges for Harmonization of Autoantibody Testing
33220
McCormick Place, S106
Level: INTERMEDIATE
CE Credit: 2.5
MODERATOR
#Gabriella Lakos, MD, PhD
Abbott Laboratories, Hematology, Santa Clara, CA
Developed in cooperation with the Clinical and Diagnostic Immunology Division

INTENDED AUDIENCE: This session is intended for clinical laboratory directors and pathologists, laboratory technologists, IVD manufacturers and anyone interested in increasing their knowledge and understanding of autoantibody tests and improving patient care by harmonization of autoantibody assays.

SESSION OVERVIEW: Experts from the laboratory, the IFCC Committee on Harmonization of Autoimmune Tests (C-HAT), and the U.S. Food and Drug Administration (FDA) will discuss the current status of autoantibody assay standardization in this interactive session, and will address the following questions:
1. Standardization or harmonization?
2. Why do we need it?
3. (How) Can we achieve it?

EXPECTED OUTCOMES: After the completion of this session, participants will be able to:
1. Describe the analytical and diagnostic challenges associated with autoantibody testing.
2. Identify the need for harmonization of autoantibody tests.
3. Define pathways to develop reference materials and harmonize autoantibody tests.
4. Understand how harmonization of autoantibody assays can contribute to the development of better laboratory tests and improved patient care.

SPEAKERS
Analytical and Diagnostics Challenges of Autoantibody Testing: Perspectives of a Laboratory Director
*Anne Tebo, PhD
University of Utah/ARUP Laboratories, Salt Lake City, UT
Autoantibody Standardization—The Final Frontier
#Joanna Sheldon, PhD, FRCPath
St. George’s Hospital, London, England, United Kingdom
Autoantibody Testing: An FDA Perspective
#Elizabeth Stafford, PhD
FDA/CDRH/OIR, Silver Spring, MD

2:30pm–5:00pm
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#Gabriella Lakos, MD, PhD
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Developed in cooperation with the Clinical and Diagnostic Immunology Division
INTENDED AUDIENCE: This session is intended for lab directors, clinical chemists, technologists, IVD industry scientists, pathologists, device/instrument manufacturers and regulatory agencies.

SESSION OVERVIEW: Precision medicine aims to improve the diagnosis and treatment of cancer. However, research now shows the integration of genomics with proteomics (proteogenomics), revealing new knowledge inaccessible by NGS. This session will discuss mass spectrometry in therapeutic drug monitoring, discuss proteogenomic tests in clinical trials and review the FDA’s approach to ‘omics tests.

EXPECTED OUTCOMES: After attending this session on targeted peptide diagnostic mass spec assays in precision medicine, learners will be able to:
1. Discuss the applications of pharmacogenomics in clinical diagnostics.
2. Identify potential functions and values of clinical chemists in clinical trials for cancer treatment.
4. Grasp the FDA regulatory considerations for the oncology trials based on genomics and proteomics features.

SPEAKERS
Pharmacogenomics Applications in Clinical Laboratories
*Nigel Clarke, PhD
Guest Diagnostics Nichols Institute, San Juan Capistrano, CA

Integrating Ex Vivo Cytotoxicity Assays, Genomic Tests and Proteomic Tests to Select Precision Therapies in Clinical Trials and Cancer Patient Care
#Karin Redland, PhD
Pacific Northwest National Laboratory, Richland, WA

Opportunities for Clinical Chemists in Precision Oncology Multi-Omic Clinical Trials
#Henry Rodriguez, PhD, MBA
National Cancer Institute, Bethesda, MD

Capillary Samples and Best Practices for Blood Glucose Monitoring in Critical Care and Hospitalized Patients: A Report on the IFCC-POCT Task Force Work Group, Recent FDA Activities and CLSI POCT17

McCormick Place, S503
Level: INTERMEDIATE
CE Credit: 2.5
MODERATOR
#Cynthia Bowman, MD, FCAP
Baystate Health, Springfield, MA

CLSI
Baystate Health, Springfield, MA
#Cynthia Bowman, MD, FCAP
Understanding BGM Performance Validation and Verification Concepts for BGM Best Practice with Hospitalized Patients; Clinical and Technical Factors Affecting BGM Accuracy in Critical Care: What Do We Really Know?

The Clinical Practice of Using BGM for Hospitalized Patients: What Factors Should Be Considered and How Should a Process Be Organized?
#James Nichols, PhD, DBAACC, FAACC
Vanderbilt University Medical Center, Nashville, TN

Capillary Glucose Accuracy in Critical Care: What Do We Really Know?
*Brad Karon, MD, MO, FCAP, FAACC
Mayo Clinic, Rochester, MN

Clinical and Technical Factors Affecting BGM in Hospitalized Patients: Understanding Risks and Benefits with Insulin Therapy
#Dieter Meesmann, MD, PhD
Ziekenhuis Oost-Limburg, Genk, Belgium

Validation and Verification Concepts for BGM Best Practice with Hospitalized Patients; Understanding BGM Performance
#Cynthia Bowman, MD, FCAP
Baystate Health, Springfield, MA

SPEAKERS
An Introduction to the IFCC Document: How Should Glucose Meters Be Evaluated in Critical Care; Validation and Verification Concepts for BGM Best Practice with Hospitalized Patients; Understanding BGM Performance
#Cynthia Bowman, MD, FCAP
Baystate Health, Springfield, MA

INTENDED AUDIENCE: This session is intended for a broad audience, including pathologists, lab directors, clinical chemists, medical technologists and scientists, point-of-care coordinators, laboratory supervisors and managers, IVD industry representatives, regulators, administrators, and clinical stakeholders.

SESSION OVERVIEW: Serious errors and performance concerns involving blood glucose meters used in critical care and other hospital settings, especially with capillary samples, will be addressed. Variables affecting BGM, ideal performance, testing options, and strategies for ensuring best technical and clinical practice will be included. Information from a recent IFCC document and FDA Advisory Committee meeting along with the CLSI white paper POCT17 will be presented.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Identify potential variables and risks associated with BGM in critical care and professional healthcare settings, especially with capillary sample types.
2. Construct a process to evaluate, select, implement, oversee and document safety of BGM use with critical care and hospitalized patients.
3. Identify all operators and stakeholders who need to be provided with education and oversight in using BGM for critical and acute care patients.
4. Define the expectations of good clinical BGM performance and risks associated with insulin therapy.

SPEAKERS
Understanding BGM Performance Validation and Verification Concepts for BGM Best Practice with Hospitalized Patients; Clinical and Technical Factors Affecting BGM Accuracy in Critical Care: What Do We Really Know?

The Clinical Practice of Using BGM for Hospitalized Patients: What Factors Should Be Considered and How Should a Process Be Organized?
#James Nichols, PhD, DBAACC, FAACC
Vanderbilt University Medical Center, Nashville, TN

Capillary Glucose Accuracy in Critical Care: What Do We Really Know?
*Brad Karon, MD, MO, FCAP, FAACC
Mayo Clinic, Rochester, MN

Clinical and Technical Factors Affecting BGM in Hospitalized Patients: Understanding Risks and Benefits with Insulin Therapy
#Dieter Meesmann, MD, PhD
Ziekenhuis Oost-Limburg, Genk, Belgium

Validation and Verification Concepts for BGM Best Practice with Hospitalized Patients; Understanding BGM Performance
#Cynthia Bowman, MD, FCAP
Baystate Health, Springfield, MA

SPEAKERS
An Introduction to the IFCC Document: How Should Glucose Meters Be Evaluated in Critical Care; Validation and Verification Concepts for BGM Best Practice with Hospitalized Patients; Understanding BGM Performance
#Cynthia Bowman, MD, FCAP
Baystate Health, Springfield, MA
PLENARY SESSION
8:45am–10:15am
McCormick Place, Grand Ballroom/S100

Nucleic Acid Detection Using CRISPR-Dx

SPEAKER: 
James Collins, PhD
Massachusetts Institute of Technology Founding Core Faculty & Wyss Institute at Harvard University, Cambridge, MA
14001
Level: BASIC | CE Credit: 1.0

INTENDED AUDIENCE: This session is intended for pathologists, lab directors, clinical chemists, medical laboratory scientists and laboratory administrators with an interest in methods to detect nucleic acid sequences.

SESSION OVERVIEW: This session reports on the discovery that CRISPR-Cas13a/C2c2 can be used for the rapid, reliable, inexpensive detection of nucleic acid sequences. This technique achieves single-base specificity in detection of specific RNA or DNA variants. The proof of concept experiment used fragments of the Zika virus genome spliced into a lentivirus and achieved detection down to 1,000 copies per mL (2 attomolar). Dr. Collins and his colleagues have coined the technique SHERLOCK (Specific High-sensitivity Enzymatic Reporter unLOCKing).

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Predict the usefulness of CRISPR-Dx.
2. Design and synthesize a SHERLOCK assay for a pathogen.
3. Describe future detailed studies needed to validate this new technique.
### Brown Bag Sessions

Brown Bag sessions are presented twice daily. Attendance is limited to 10 participants per session. Advance registration and session fees are required. AACC does not provide meals for these sessions. You will be able to purchase your own food in the convention center prior to the session.

CE Credit: 1.0 (per session) unless otherwise noted in the mobile app, or at www.aacc.org/2018am | McCormick Place, Vista Ballroom/S406

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<td>#Vickie Trace, MS, MLS(ASCP), Mayo Clinic Florida, Jacksonville, FL</td>
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<td>#Shahram Shahangian, PhD, MS, DABCC, FAACC, Centers for Disease Control and Prevention, Atlanta, GA</td>
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<td>*Neil Harris, MBCoB, MD, DABCC, FCAP, FAACC, University of Florida College of Medicine, Gainesville, FL</td>
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<td>#Allison Chembila, PhD, DABCC, FAACC, Keck Medicine of the University of Southern California, Los Angeles, CA</td>
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<tr>
<td>44114</td>
<td>54214</td>
<td>*Dori Block, PhD, Mayo Clinic, Rochester, MN</td>
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</tbody>
</table>

| **SESSION #** | **AM** | **PM** | **SPEAKER** | **LEVEL** |
| 44115 | 54215 | #Christopher Farnsworth, PhD, Washington University, St. Louis, MO | BASIC |
| 44116 | 54216 | #Yachana Kataria, PhD, DABCC, Boston Children's Hospital, Boston, MA | INTERMEDIATE |
| 44117 | 54217 | #Pamela Banning, MLS(ASCP), PMH(PMP), 3M HIS, West Lawn, OR | INTERMEDIATE |
| 44118 | 54218 | #Carlos Lemos, MD, CHLN, Lisbon, Portugal | BASIC |
| 44119 | 54219 | #Oloso Sugahara, BS, Centers for Disease Control and Prevention, Atlanta, GA | INTERMEDIATE |
| 44120 | 54220 | #Jessica Colon-Franco, PhD, DABCC, Medical College of Wisconsin, Milwaukee, WI | INTERMEDIATE |
| 44121 | 54221 | #Grace Williams, PhD, Dartmouth-Hitchcock Medical Center, Lebanon, NH | BASIC |
| 44122 | 54222 | #Danni Li, PhD, DABCC, FAACC, University of Minnesota, Minneapolis, MN | INTERMEDIATE |
| 44123 | 54223 | #Hui Zhou, PhD, Centers for Disease Control and Prevention, Atlanta, GA | INTERMEDIATE |
| 44124 | 54224 | #Akshita Hans, MBBS, MD, Govt. Medical College, Pal, Rajasthan, India | INTERMEDIATE |
| 44125 | 54225 | #Stefani Thomas, PhD, Johns Hopkins University, Baltimore, MD | BASIC |
| 44126 | 54226 | *Jeffery Chance, PhD, BD Life Sciences—Preanalytical Systems, Franklin Lakes, NJ | BASIC |
| 44127 | 54227 | #Kenneth Hoevelt, PhD, FAACC, Guest Diagnostics, Sedge-Wooday, CA | BASIC |
| 44128 | 54228 | #Rongrong Huang, PhD, Houston Methodist Hospital, Houston, TX | INTERMEDIATE |
| 44130 | 54230 | #Saptarshi Mandal, PhD, Joshiipur, Rajasthan, India | BASIC |
| 44131 | 54231 | #Kamisha Johnson-Davis, PhD, DABCC, FAACC, University of Utah/ARUP Laboratories, Salt Lake City, UT | INTERMEDIATE |
**SESSION OVERVIEW:** This session provides an excellent opportunity for a limited number of attendees to meet with Dr. James Collins, one of the founders of the field of synthetic biology. His recent efforts have focused on the adaptation of a CRISPR protein that targets RNA for use as a rapid and highly sensitive diagnostic tool with the potential to transform research and global public health. This new molecular tool, dubbed “SHERLOCK” (Specific High-sensitivity Enzymatic Reporter unLOCKing), can detect extremely low amounts of nucleic acids and, in turn, be used as a diagnostic test for viral and bacterial infections. Dr. Collins will discuss this groundbreaking work and its potential to fundamentally change the diagnosis of common and emerging infectious diseases.

**SPEAKER**
*James Collins, PhD*
Massachusetts Institute of Technology Founding Core Faculty & Wyss Institute at Harvard University, Cambridge, MA

**EXPECTED OUTCOMES:**
1. Understand the pathophysiologic and diagnostic workup of primary aldosteronism.
2. Discuss analytical considerations in the diagnosis of PA.
3. Identify common misconceptions and pre-analytical factors that prevent accurate diagnosis of PA.
4. Highlight the clinical impact of a diagnostic management team dedicated to PA.

**SPEAKERS**
*Alison Woodworth, PhD, DABCC, FAACC*
University of Kentucky, Lexington, KY

**TRACK:** Endocrinology

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**SCIENTIFIC SESSIONS**

**MORNING**

**10:30am–12:00pm**

**A Team Approach to Reducing Diagnostic Error—Optimizing Care for Patients with Suspected Primary Aldosteronism**

**34102**

Mc Cormick Place, S105BC

**Level:** INTERMEDIATE

**CE Credit:** 1.5

**MODERATOR**
*Alison Woodworth, PhD, DABCC*
University of Kentucky, Lexington, KY

Developed in cooperation with the Endocrinology Division

**TRACK:** Endocrinology

**10:30am–12:00pm**

**Mass Spectrometry Applications for Monoclonal Antibody Therapeutics: Which Road to Travel**

**34103**

Mc Cormick Place, S505

**Level:** INTERMEDIATE

**CE Credit:** 1.5

**MODERATOR**
*Maria Alice Willrich, PhD, DABCC, FAACC*
Mayo Clinic, Rochester, MN

Developed in cooperation with the Clinical and Diagnostic Immunology Division

**TRACK:** Mass Spectrometry

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**INTENDED AUDIENCE:** This session is intended for clinical laboratory directors and pathologists, clinical technologists, IVD manufacturers, pharmaceutical scientists, and anyone interested in the mass spectrometry applications for therapeutic monoclonal antibodies, especially those involved in development of new methods for t-mAb monitoring.

**SESSION OVERVIEW:** The clinical laboratory can make critical contributions to the management of patients receiving treatment with therapeutic monoclonal antibodies (t-mAbs) through quantitation of the t-mAbs concentration and assessment of anti-drug antibodies. However, these drugs can also pose challenges by interfering in existing tests. Mass spectrometry has been an essential tool in providing solutions for these challenges and broad applications of t-mAbs.

**EXPECTED OUTCOMES:**
1. List different types of monoclonal antibody therapeutics and their clinical applications.
2. Describe mass spectrometry methods available for the assessment of monoclonal antibody therapeutics (e.g., peptide vs. intact).
3. Discuss the different quantitation approaches to develop a new mass spectrometry assay for t-mAb assessment and which instruments to use.

**SPEAKERS**
*Maria Alice Willrich, PhD, DABCC, FAACC*
Mayo Clinic, Rochester, MN

**Mass Spectrometry Approaches for Identification and Quantitation of mAbs: Peptide vs. Intact Strategies**
*Paula Liedke, MS, MT(ASCP)*
Mayo Clinic, Rochester, MN

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**INTENDED AUDIENCE:** This session is intended for clinical laboratory directors and pathologists, laboratory directors, clinical chemists, medical technologists, laboratory supervisors and managers, and IVD industry scientists.

**SESSION OVERVIEW:** The Institute of Medicine (IOM) called for a team approach to reduce diagnostic error. Diagnostic management teams (DMTs), composed of clinical and laboratory experts, are a solution to this charge. In this session, we highlight the clinical, analytical and interpretive aspects of a DMT dedicated to the diagnostic work-up of suspected primary aldosteronism.

**EXPECTED OUTCOMES:** After this session, participants will be able to:
1. Understand the pathophysiologic and diagnostic workup of primary aldosteronism.
2. Discuss analytical considerations in the diagnosis of PA.
3. Identify common misconceptions and pre-analytical factors that prevent accurate diagnosis of PA.
4. Highlight the clinical impact of a diagnostic management team dedicated to PA.

**SPEAKERS**
*Primary Aldosteronism, a Challenging Diagnosis—The Clinical Perspective*
*Andrea Utz, MD, PhD*
Vanderbilt University Medical Center, Nashville, TN

*Analytical Challenges in the Work-Up of Primary Aldosteronism*
*Joseph Wiencek, PhD*
University of Virginia School of Medicine, Charlottesville, VA

*A Team Approach to the Work-Up of Endocrine Mediated Hypertension; the Primary Aldosteronism Diagnostic Management Team*
*Alison Woodworth, PhD, DABCC*
University of Kentucky, Lexington, KY

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**INTENDED AUDIENCE:** This session is intended for pathologists, laboratory directors, clinical chemists, medical technologists, laboratory supervisors and managers, and IVD industry scientists.

**SESSION OVERVIEW:** The session will provide an overview of how diagnostic errors can occur in the context of the laboratory and how diagnostic teams can be formed to mitigate these errors. The session will also discuss the role of the pathologist, laboratory director, clinical chemist, and medical technologist in reducing diagnostic errors.

**EXPECTED OUTCOMES:** After this session, participants will be able to:
1. Define diagnostic errors and their impact on patient care.
2. Understand the role of the diagnostic team in reducing diagnostic errors.
3. Identify strategies for improving diagnostic accuracy.

**SPEAKERS**
*Primary Diagnostic Error—Optimizing Care for Patients with Suspected Primary Aldosteronism*
*Maria Alice Willrich, PhD, DABCC, FAACC*
Mayo Clinic, Rochester, MN

*Analytical Considerations in the Diagnosis of Primary Aldosteronism*
*Andrea Utz, MD, PhD*
Vanderbilt University Medical Center, Nashville, TN

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*Joseph Wiencek, PhD*
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*Alison Woodworth, PhD, DABCC*
University of Kentucky, Lexington, KY
**MORNING**

10:30am–12:00pm

**Are Your Lab Tests Viable under PAMA Medicare Reimbursements?**

34104
McCormick Place, S504

Level: INTERMEDIATE
CE Credit: 1.5

MODERATOR

*Matthew Clark, BS
Mayo Clinic, Rochester, MN

**TRACK:** Utilization & Lab Management

**INTENDED AUDIENCE:** This session is intended for laboratory leaders, clinical chemists, pathologists, clinical laboratory scientists, clinical researchers, laboratory directors, and public health professionals.

**SESSION OVERVIEW:** Correct diagnosis and consistent treatment of thyroid disorders depend on accurate and reliable thyroid hormone tests. However, discrepant measurement results have been reported due to wide variability in commercially available immunoassays for these tests. This session will explore the applications, shortfalls, and future of thyroid hormone testing.

**EXPECTED OUTCOMES:** After this session, participants will be able to:

1. Understand the role of thyroid function biomarkers in clinical decision making.
2. Summarize the current state of thyroid hormone testing, including analytical performance and its impact on patient care, research translation, and public health.
3. Describe activities of the IFCC working group (C-STFT) to standardize and harmonize thyroid function tests.
4. Outline efforts to assess thyroid hormone test performance using the CDC standardization program and accuracy-based proficiency testing.
5. Understand programs and activities of PATH (Partnership for the Accurate Testing of Hormones) to improve the quality of hormone tests.

**SPEAKERS**

Facilitating the Transition to Accurate Measurement of Thyroid Hormones

*Ronald Whiteley, PhD, DABCC, FAACC
University of Kentucky, Louisville, KY

Standardization and Harmonization of Free Thyroxine (FT4) and Thyrotropin (TSH) Measurements

*Katleen Van Uytfanghe, PhD
Ghent University, Gent, Belgium

Clinical Challenges of Thyroid Hormone Testing

*Gregory Brent, MD
David Geffen School of Medicine at University of California, Los Angeles, Los Angeles, CA

**SESSION OVERVIEW:** Accurate measurement of thyroid hormones is critical in disease management and patient care. Discrepant results can lead to improper treatment and diagnosis. This session will address current challenges and future directions in thyroid hormone testing.

**EXPECTED OUTCOMES:** After this session, participants will be able to:

1. Identify cost components of a laboratory test.
2. Describe when costs are out of alignment with Medicare reimbursement.
3. Evaluate strategies to bring costs back into alignment.

**SPEAKERS**

Examining High-Level Test Cost Structures to Determine Viability

*Michael Baisch, BS
Mayo Clinic, Rochester, MN

Identifying Specific Cost Savings to Improve Viability

*Matthew Clark, BS
Mayo Clinic, Rochester, MN

**EXPECTED OUTCOMES:** After this session, participants will be able to:

1. Identify the cost components of a test.
2. Describe when costs are out of alignment with Medicare reimbursement.
3. Evaluate strategies to bring costs back into alignment.

**SPEAKERS**

*Amy Pyle-Eilola, PhD, DABCC
Nationwide Children’s Hospital, Columbus, OH

Developed in cooperation with the Pediatric and Maternal-Fetal Division

**TRACK:** Pediatric/Maternal-Fetal

**INTENDED AUDIENCE:** This session is intended for laboratory leaders and those responsible for the continuation of viable lab operations.

**SESSION OVERVIEW:** Aligning a test’s cost with its reimbursement is one of the core competencies that a laboratory leader must have in their skill set for the laboratory to survive and thrive in today’s ever-changing and competitive healthcare marketplace. This session will provide a method of analysis for determining a test budget that is aligned with the new PAMA Medicare reimbursement plan, and for creating a plan to bring the actual test cost into alignment with the budget.

**EXPECTED OUTCOMES:** After this session, participants will be able to:

1. Identify the cost components of a test.
2. Describe when costs are out of alignment with Medicare reimbursement.
3. Evaluate strategies to bring costs back into alignment.

**SPEAKERS**

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*Michael Baisch, BS
Mayo Clinic, Rochester, MN

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*Matthew Clark, BS
Mayo Clinic, Rochester, MN

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*Michael Baisch, BS
Mayo Clinic, Rochester, MN

Identifying Specific Cost Savings to Improve Viability

*Matthew Clark, BS
Mayo Clinic, Rochester, MN
INTENDED AUDIENCE: This session is intended for postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IVD scientists.

SESSION OVERVIEW: AACC is dedicated to advance the science and practice of laboratory medicine. A select group of members has reviewed and ranked the abstracts submitted for the AACC Annual Scientific Meeting. The Annual Meeting Organizing Committee has reviewed the accepted abstracts and has chosen five authors to present their research as oral presentations. Each 15-minute presentation will be followed by a 3-minute question-and-answer session.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe and evaluate the latest advances in laboratory medicine in this topic area.
2. Compare and contrast the research in this topic area.
3. Integrate and translate state-of-the-art knowledge in this topic area into the roles and responsibilities of the clinical laboratory professional.

SPEAKERS

Diagnostic and High-grade Cancer Prediction Performance of LDN-PSA Glycosylation Isoform
Tohru Yoneyama, PhD
Department of Advanced Transplant and Regenerative Medicine, Hirosaki University Graduate School of Medicine, Hirosaki, Japan

A Novel Activity-based Concept to Screen Biological Matrices for the Presence of (Synthetic) Opioids
Christophe Stove, PharmD, PhD
Ghent University, Ghent, Belgium

Universal Pathogen Capture System for Rapid Isolation of Intact Bacteria Directly from a Patient Sample
Rajesh Krishnamurthy, PhD
3i Diagnostics, Inc., Germantown, MD

Novel Biochemical Markers Help Aid in Stratifying Patients at Risk of Preeclampsia and Adverse Events
Ajay Kumar, PhD
Ansh Labs, Webster, TX

Simultaneous Assessment of N-terminal pro-B-type Natriuretic Peptide and Presepsin Improves Risk Prediction of Acute Kidney Injury and Mortality after Cardiac Surgery
Eberhard Spanuth, PhD
DiAsewing GmbH, Neidelbach, Germany
INTENDED AUDIENCE: This session is intended for clinical chemists, lab directors, bench-to-bedside (translational) researchers, oncologists, hematologists and nephrologists.

SESSION OVERVIEW: This session will explore how to successfully identify novel protein biomarkers for unmet clinical needs and translate them into diagnostic assays for routine use. To drive this point, we will present key diagnostic advances in the areas of immuno-oncology, fibrillary glomerulonephritis and immunoglobulin light chain amyloidosis. On the topic of immuno-oncology, the rapid clinical development of pembrolizumab for non-small cell lung cancer required even more rapid development of a programmed cell death 1 ligand (PD-L1) immunohistochemistry assay. This lead to the first FDA-approved companion diagnostic in cancer immunotherapy and accelerated approval of pembrolizumab. We will also explore how tissue-based diagnoses for fibrillary glomerulonephritis and amyloidosis have recently evolved, based on proteomics approaches, to include non-invasive serum-based markers.

EXPECTED OUTCOMES: After attending this session, participants will be able to:
1. Understand how to develop novel diagnostic biomarkers for unmet clinical needs.
2. Know how to use proteomics and immunoclinical analysis.
3. Understand how to translate the markers into a clinical laboratory for routine use.
4. Explain how a companion diagnostic facilitates drug development.

SPEAKERS:
- Developing an Immunohistochemistry Test for “Programmed Cell Death 1 Ligand” (PD-L1) Companion Diagnostic for Pembrolizumab
  *Kareemh Emancipator, PhD
  Merck & Co., Kenilworth, NJ

Novel Diagnostics to Enable Precise Diagnosis of Fibrillary Glomerulonephritis and Early Diagnosis of Light Chain Amyloidosis
- Sunendra Desai, PhD
  Mayo Clinic, Rochester, MN

EXPECTED OUTCOMES:
- Participants will be able to:
  1. Identify the current substantial variation in analytical and post-analytical laboratory processes, including discussion of data from recent national surveys.
  2. Describe the concepts and potential advantages of harmonized laboratory systems and reference intervals, as well as potential barriers to harmonization.
  3. Describe global harmonization efforts and various strategies that have been employed in different countries to achieve harmonization.

SPEAKERS:
- Harmonization of Adult and Pediatric Reference Intervals
  *Khosrow Adeli, PhD, FCACB, DABCC
  The Hospital for Sick Children, Toronto, ON, Canada

Clinical Lab Consulting, Bluffton, SC

Therapeutic Antibody Use: What the Future Holds for Clinical Labs
*Charles Root, PhD
CodeMap LLC, Chicago, IL

CDC’s Division of Laboratory Systems: Protecting America’s Health by Strengthening Clinical Laboratories
#Reynolds Salerno, PhD
Centers for Disease Control and Prevention, Atlanta, GA

Keeping Out of Trouble with the Office of Inspector General: Strategies for Improving Laboratory Compliance
#Gregory Root, JD
Codemap, Chicago, IL

Healthcare Reform: What the Future Holds for Clinical Labs
#Elissa Paszat, EdM, CLS, EP
Clinical Lab Consulting, Buffalo, SC

INTENDED AUDIENCE: This session is intended for laboratory directors, medical technologists, clinical chemists and pathologists.

SESSION OVERVIEW: Exposure to endocrine-disrupting chemicals (EDCs) affects human health and development. To reliably assess the impact of these chemicals on diseases, analytical measurements need to meet the same standards as those used in clinical laboratories. This creates unique opportunities for clinical laboratories to help improve EDC measurements and human health.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe EDCs and their importance in individual and public health.
2. Explain how EDCs are measured and how laboratory measurements can affect the interpretation of health effects.
3. List major contributions the clinical laboratory can make to advance the field of EDC research.

SPEAKERS:
Endocrine-Disrupting Chemicals in Environmental Health Research
#Linda Bimbiron, PhD
National Institute of Environmental Health Sciences and National Toxicology Program, Research Triangle Park, NC

Endocrine-Disrupting Chemicals: A Costly Public Health Threat to Children’s Health
#Leonardo Trasande, MD, MPP
New York University School of Medicine, New York, NY

Measuring Endocrine Disruptors in Biological Samples: What Clinical Laboratories Can Offer
#Roy Gara, PhD
University of California, San Francisco, San Francisco, CA
INTENDED AUDIENCE: This session is intended for postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IVD scientists.

SESSION OVERVIEW: AACC is dedicated to advance the science and practice of laboratory medicine. A select group of members has reviewed and ranked the abstracts submitted for the AACC Annual Scientific Meeting. The Annual Meeting Organizing Committee has reviewed the accepted abstracts and has chosen five authors to present their research as oral presentations. Each 15-minute presentation will be followed by a 3-minute question-and-answer session.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe and evaluate the latest advances in laboratory medicine in this topic area.
2. Compare and contrast the research in this topic area.
3. Integrate and translate state-of-the-art knowledge in this topic area into the roles and responsibilities of the clinical laboratory professional.

SPEAKERS
Sex-Specific 99th Percentiles Derived from the AACC Universal Sample Bank for 8 High-Sensitivity Cardiac Troponin Assays
#Karen Schulz, DC
Hennepin County Medical Center, Minneapolis, MN

A Novel Derivatization-Based LC-MS/MS Method with High Sensitivity for Quantitation of Cannabinoids in Breath Samples
#Yang Luo, PhD
University of California at San Francisco, San Francisco, CA

Assessing the Impact of Biotin and Simulating Patient Risk Using the Elecsys Troponin T Gen 5 STAT Assay
#Brooke Katzman, PhD
Mayo Clinic, Rochester, MN

Baseline High-Sensitivity Cardiac Troponin I Aids in Risk Assessment in Patients with Diabetes, Hypertension, and Dyslipidemia without Myocardial Infarction
#Ian Gunsolus, PhD
Department of Laboratory Medicine and Pathology, Hennepin County Medical Center, Minneapolis, MN

Clinical Significance of Discrepant ELISA and IFA Results for Anti-PLA2R Antibody Testing
#Callen Giesen, PhD
Mayo Clinic, Rochester, MN

AFTERNOON
2:30pm–5:00pm
Protein Electrophoresis Reporting: Multinational Recommendations and Perspectives on Standardization
34214
McCormick Place, S403
Level: INTERMEDIATE
CE Credit: 2.5
MODERATOR
#Ronald Booth, PhD, FCACB, FAACC
The Ottawa Hospital, Ottawa, ON, Canada

INTENDED AUDIENCE: This session is intended for laboratorians (pathologists, lab directors, clinical biochemists, technologists) involved in performing and interpreting serum and/or urine protein electrophoresis.

SESSION OVERVIEW: Protein electrophoresis reporting varies significantly between laboratories and individuals. This session will present international recommendations for reporting protein electrophoresis. It will include interactive case presentations using standardized approaches and a multinational panel discussion following the lectures and interactive session.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Recognize the need for standardization of protein electrophoresis reporting.
2. Be aware of the ongoing international efforts to achieve standardization of protein electrophoresis reporting.
3. Apply the standardized techniques when interpreting and reporting protein electrophoresis.

SPEAKERS
2018 Canadian Recommendations for Protein Electrophoresis Reporting
#Ronald Booth, PhD, FCACB, FAACC
The Ottawa Hospital, Ottawa, ON, Canada

Dutch Perspective on Protein Electrophoresis Standardization
#Joannes Jacobs, MD, PhD
Radboud University Medical Center, Nijmegen, Netherlands

Update on International Federation of Clinical Chemists (IFCC) Protein Electrophoresis Standardization Efforts
#Maria Alice Willrich, PhD, DABCC, FAACC
Mayo Clinic, Rochester, MN

Novel Methods For Quantitation of Monoclonal Proteins
#David Keren, MD
The University of Michigan Medical School, Ann Arbor, MI

Synoptic Reporting Applied to Protein Electrophoresis Reporting: A Step toward Standardization
#Christopher McCudden, PhD, DABCC, FCACB, FACC
The Ottawa Hospital, Ottawa, ON, Canada
AFTERNOON

2:30pm–5:00pm
Innovations in Body Fluid Testing
34216
McCormick Place, S101B
Level: INTERMEDIATE
CE Credit: 2.5
MODERATOR
*Lakshmi Ramanathan, PhD, COQ
New York State Department of Health, Memorial Sloan-Kettering Cancer Center, New York, NY
TRACK: Point-of-Care Testing

INTENDED AUDIENCE: This session is intended for clinical chemists, pathologists, lab directors, lab technologists, lab supervisors, fellows, residents and scientists.
SESSION OVERVIEW: Non-invasive body fluids show promise in population-based screening studies and point-of-care, decentralized testing. Tests in salvia, cerebral spinal and body fluids will improve diagnostic interpretation and permit biomarker analysis for management and treatment decisions. This session will provide a road map to non-invasive clinical testing (NIT).
EXPECTED OUTCOMES: After this session, participants will be able to:
1. List the advantages of noninvasive testing.
2. Understand the performance characteristic required for assays in body fluids.
3. Learn about biomarkers that are used in blood and how these are measured in saliva and body fluids after proper validation.

SPEAKERS
Current and New Opportunities in Saliva Analysis
*Chamindie Punyadeera, PhD
Queensland University of Technology, Brisbane, Queensland, Australia
New Biomarker Analysis in CSF and Lavage Fluids
*Fred Apple, PhD, DABCC
Hennepin County Medical Center, Minneapolis, MN
Performance Characteristics and Validation in Non-Blood Analysis
*Lakshmi Ramanathan, PhD, COQ
New York State Department of Health, Memorial Sloan-Kettering Cancer Center, New York, NY

SESSION OVERVIEW: This session is intended for lab directors, pathologists, clinical chemists, technologists and industry scientists.
SESSION OVERVIEW: Diagnosis of Immunoglobulin E (IgE)-associated disorders is challenging. Increasing availability of laboratory tests based on clinically relevant allergen components and cell-based functional assays has the potential of changing the way allergen-specific IgE antibody diagnostics are performed. In this scientific session, current advances in allergy diagnostics, advantages and challenges will be discussed.
EXPECTED OUTCOMES: After completion of this session, participants will be able to:
1. Understand the technological advances in allergen-specific IgE antibody testing diagnostics—specifically, component-based diagnostic testing, and functional assays such as the basophil activation test and the basophil histamine release test.
2. Understand how microarray technology has been applied to the diagnosis of human allergic disease.
3. Understand the concepts of diagnosing non-IgE mediated food allergy in the absence of validated tests.

SPEAKERS
Technological Advances in Allergen-Specific IgE Antibody Testing
*Anthony Horner, MD
Quest Diagnostics, Marlborough, MA
Microarray Technology as Applied to Human Allergic Disease Diagnosis
*Robert Hamilton, PhD, D.ABMU, FAAAAI
Johns Hopkins University School of Medicine, Baltimore, MD
Non-IgE-Mediated Allergen Testing in Food Allergy
*Carina Venter, PhD, RD
University of Colorado Denver School of Medicine, Aurora, CO

INTENDED AUDIENCE: This session is intended for any laboratory/physician scientist, including pathologists, lab directors, clinical chemists, technologists, ID industry scientists and regulatory experts, who has an interest in cardiac biomarkers, with specific reference to cardiac troponin and high-sensitivity assays pertaining to analytical and clinical issues.
SESSION OVERVIEW: This session will include interactive audience participation with evidence-based case studies. We will discuss how to implement utilization of high-sensitivity cardiac troponin (hs-cTnI, hs-cTnT) for early rule-out and rule-in of myocardial infarction in clinical practice. We will also discuss international guidelines for defining normality, 99th percentiles and decision cut-off concentrations to optimize patient safety outcomes.
EXPECTED OUTCOMES: After this session, participants will be able to demonstrate:
1. Demonstrate understanding of how to implement a high-sensitivity (hs) cardiac troponin assay in the clinical laboratory, addressing sex-specific 99th percentiles, revising reporting units to whole numbers, quality control utilization, the role of the limit of detection (LoD) for early rule-out utilization, and how to implement a serial hs-cTn order set strategy (i.e., 0h and 1-3h) for early diagnostic accuracy for MI.
2. Demonstrate ability to establish a partnership plan for communication between the laboratory, and emergency medicine and cardiology providers on how to implement hs-cTn testing in clinical practice along international evidence-based and expert opinion guidelines.
3. Demonstrate the appropriate need to measure hs-cTn in non-acute coronary syndrome (ACS) patients to detect myocardial injury and the role of hs-cTn testing in these patients’ triage, management and outcome assessment.
4. Demonstrate better understanding of the subtle analytical and clinical interpretation differences between the multiple hs-cTnI assays and the one hs-cTnT assay.

SPEAKERS
Clinical Laboratory Practice Recommendations for the Use of Cardiac Troponin Assays
*Fred Apple, PhD, DABCC
Hennepin County Medical Center, Minneapolis, MN
Early, Rapid Rule-Out Strategies and Safety Performance at 30 Days
*Richard Body, PhD
Manchester Royal Infirmary, Manchester, England, United Kingdom
Implementation into Clinical Practice by Carefully Defining and Differentiating Myocardial Injury from Myocardial Infarction Using Global Task Force Guidelines
*Allan Jaffe, MD
Mayo Clinic, Rochester, MN
INTENDED AUDIENCE: This session is intended for pathologists, laboratory directors, clinical chemists, technologists, IVD industry scientists and others with an interest in the value of laboratory medicine and the linkage of laboratory testing and patient outcomes.

SESSION OVERVIEW: The shift from volume to value, the need to demonstrate improved patient outcomes, and the reduction of diagnostic error and unnecessary or harmful procedures are key themes of 21st-century medicine, and the clinical laboratory has a central role in all these areas. However, laboratory medicine has failed in the past to maximize its contribution to healthcare for reasons including perverse reimbursement incentives and lack of education in the proper use of testing. This session will explore the changing external environment and its effects on laboratory medicine and will indicate new approaches to delivering patient-centered laboratory medicine.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe the changes in delivery of diagnostic medicine envisaged in the National Academies’ report “Improving Diagnosis in Health Care” (2015).
2. Evaluate the role of the diagnostic management team (DMT) in improving test selection and results interpretation.
3. Identify the factors that influence the link between laboratory testing and patient outcomes.
4. Partner more effectively with clinicians and diagnostic colleagues to ensure effective interpretation, improved diagnosis and better patient outcomes.
5. Discuss the application of the DMT approach to specific clinical problems.

SPEAKERS
Overview of the Problem: Using the Diagnostic Management Team to Improve Diagnostic Testing
#Michael Laposata, MD, PhD
University of Texas Medical Branch Galveston, Galveston, TX

Linking Laboratory Medicine to Patient Outcomes
*Mike Hallworth, MA, MSc, MCB, FRCPath
Association of Clinical Biochemists (UK), London, England

Better Patient Outcomes by Improving the Laboratory–Clinician Interface
#Danielle Freedman, MBCS, FRCPath, MD
Luton & Dunstable Hospital NHS Trust, Luton, England

The Diagnostic Management Team in Action
#James Nicholas, PhD, DABCC, FAACC
Vanderbilt University Medical Center, Nashville, TN

AFTERNOON
2:30pm–5:00pm
Better Testing, Better Care—the Role of the Laboratory in Improving Patient Outcomes
34219
McCormick Place, S505
Level: INTERMEDIATE
CE Credit: 2.5
MODERATOR
*Mike Hallworth, MA, MSc, MCB, FRCPath
Association of Clinical Biochemists (UK), London, England
TRACK: Utilization & Lab Management

SPECIAL SESSION
4:00pm–5:00pm
McCormick Place, Expo Show Floor, Poster Theater
Laboratory Feud: AACC Academy vs. CLS Council
Level: BASIC | CE Credit: 0

INTENDED AUDIENCE: This session is intended for all AACC members, including pathologists, lab directors, clinical chemists, technologists, IVD industry scientists, residents and fellows.

SESSION OVERVIEW: This session will use the “Family Feud” game show-style format. Two teams (five members of the AACC Academy Council versus five members of the CLS Council) will compete in an educational challenge covering various laboratory medicine topics. It will be educational and will give everyone an opportunity to learn a little bit more about AACC members in key leadership positions.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. List various tumor markers and their clinical utility.
2. Identify new and current cardiovascular biomarkers.
3. Know the most commonly used/abused drugs.
4. List common factors that can affect laboratory test results.

MODERATOR
#Paul Jannetto, PhD, DABCC, FAACC, MT(ASCP)
Mayo Clinic, Rochester, MN

SPEAKERS
AACC Academy Team
#Angela Ferguson, PhD, DABCC, FAACC
Children’s Mercy Hospitals and Clinics, Kansas City, MO
#Patrick Kyle, PhD, ABFT, DABCC, FAACC
University of Mississippi Medical Center, Jackson, MS
*Kara Lynch, PhD, DABCC
University of California/San Francisco General Hospital, San Francisco, CA
#James Ritchie, PhD, DABCC, FAACC
Emory University Hospital, Atlanta, GA
#William Winter, MD
University of Florida, Gainesville, FL

Clinical Laboratory Scientist (CLS) Council Team
#Cheri Curtis, BS
Emory Medical Laboratory, Atlanta, GA
*Peggy Mann, MS, MT(ASCP)
University of Texas Medical Branch, Galveston, TX
#Jeff Young, MLS(ASCP)
Providence Regional Laboratory — Oregon, Portland, OR
*Steven Zibrat, MS, MT(ASCP)
University of Chicago Hospital, Chicago, IL
PLENARY SESSION
8:45am–10:15am
McCormick Place, Grand Ballroom/S100

Essential Diagnostics: Meeting the Needs of a Global Population

SPEAKERS
#Timothy Amukele, PhD, MD
Johns Hopkins University, Baltimore, MD

#Lee Schroeder, MD, PhD
University of Michigan, Ann Arbor, MI

15001
Level: BASIC | CE Credit: 1.0

INTENDED AUDIENCE: This session is intended for pathologists, lab directors, clinical chemists, medical technologists and laboratory administrators with an interest in laboratory testing in resource-poor settings.

SESSION OVERVIEW: While medicines treat disease, diagnostics find disease. Yet in global health initiatives, diagnostics receive much less attention. The WHO’s Model List of Essential Medicines has been critical to the efficient delivery of medicines. This session will describe how a Model List of Essential Diagnostics will help strengthen laboratory capacity in resource-poor settings.

EXPECTED OUTCOMES: After this session, participants will be able to:
1. Describe the state of laboratory capacity in low-resource countries.
2. Explain the impact of the Model List of Essential Medicines.
3. List the barriers to diagnostics implementation and explain how an essential diagnostics list can help overcome those barriers.
EXPECTED OUTCOMES:
1. Understand varied mechanisms of negative interference.
2. Identify negative interferences and positive interferences and how to avoid such interferences.
3. Understand impact of reagent in clinical laboratory test results and be a better consultant to ordering physicians.
4. Understand varied mechanisms of negative interference.

SPEAKERS:
*Amruta Daigupta, PhD, DABCC, NRCC
University of Texas at Houston Medical School, Houston, TX

Mechanisms of Negative and Bidirectional Interferences in Clinical Laboratory Immunoassay Test Results

*Douglas Strickle, PhD, DABCC
Jefferson University Hospital, Philadelphia, PA
**SEQUENTIALLY SESSIONS**

**THURSDAY | AUGUST 2**

### MORNING

**10:30am–12:00pm**

**Sequence Gazing: Somatic Variant Calling and Interpretation for Next-Generation Sequencing**

**35104**

McCormick Place, S102A

**Level:** INTERMEDIATE

**CE Credit:** 1.5

**MODERATOR**

#Christina Lockwood, PhD, DABCC, DABMGG

University of Washington, Seattle, WA

Developed in cooperation with the College of American Pathologists

**TRACK:** Genomics/Genetics

**EXPECTED OUTCOMES:**

1. Summarize the target enrichment methods used for clinical NGS.
2. Distinguish classes of genetic variation detected by NGS.
3. Describe steps involved in processing NGS data to identify sequence variants.
4. Differentiate between clinically significant and insignificant sequence variants.
5. Describe the issues raised by discovery of incidental variants.

**SPEAKERS**

*Eric Dunsavage, MD*

Washington University School of Medicine, St. Louis, MO

The Search for Meaning: Clinical Interpretation of Sequence Variants

*Jan Hagemann, MD, PhD, FCAP*

Washington University School of Medicine, St. Louis, MO

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**10:30am–12:00pm**

**ICP-MS: Essentials and Interactive Case Studies on Elemental Testing in Clinical Laboratories**

**35105**

McCormick Place, S103BC

**Level:** BASIC

**CE Credit:** 1.5

**MODERATOR**

*Sarina Yang, PhD, DABCC (CC, TC), FAACC*

Quest Diagnostics, Valencia, CA

**TRACK:** Mass Spectrometry

**EXPECTED OUTCOMES:**

1. Compare the strengths and weaknesses of current technologies in trace element testing.
2. Describe the basic principles of ICP-MS.
3. List the steps of method development and validation using ICP-MS.
4. Describe the clinical work-up of patients with elemental toxicity and interpret results of elemental analysis.

**SPEAKERS**

*Laboratory Testing of Heavy Metals in Blood and Urine Using ICP-MS*

*Sarina Yang, PhD, DABCC (CC, TC), FAACC*

Quest Diagnostics, Valencia, CA

Interactive Elemental Case Studies

#Paul Jannetto, PhD, DABCC, FAACC, MT(ASCP)

Mayo Clinic, Rochester, MN
**INTENDED AUDIENCE:** This session is intended for pathologists, lab directors, clinical chemists, technologists, IVD industry scientists and those interested in automated data processing with open-source computational resources.

**SESSION OVERVIEW:** This session will introduce available open-source computational resources that can be tailored for laboratory data processing. Real-world examples will illustrate the advantages and impacts of those tools in routine laboratory practice. The concepts of machine learning and its opportunities in the laboratory medicine field will be discussed and basic data processing and visualization approaches will be explained.

**EXPECTED OUTCOMES:** After this session, participants will be able to:
1. Recognize the open-source data analysis tools that are available and the impact of applying those tools within clinical laboratories and beyond, to healthcare more broadly.
2. Identify the projects and fields where such tools can be applied to improve the quality and efficiency of laboratory practice.
3. Minimize the barrier to efficient data analysis and grasp some basic code-reading and editing skills.

**SPEAKERS**
- **Basic Data Cleaning, Processing and Visualization: A Case Study Using Turnaround Times**
  - James Harrison, MD, PhD
  - University of Virginia School of Medicine, Charlottesville, VA
- **A Glimpse into Machine Learning: Embracing the Opportunities in Laboratory Medicine**
  - Min Yu, MD, PhD, DABCC
  - University of Kentucky, Lexington, KY
- **Beyond the Personal Computer: Moving Analysis to Computational Clusters**
  - Cody Bumgardner, PhD
  - University of Kentucky, Lexington, KY

**TRACK:** Utilization & Lab Management

**10:30am–12:00pm**

**Harnessing the Power of Evidence-Based Medicine to Maximize Laboratory Cost Savings and Effective Test Utilization**

**35108**

McCormick Place, S102BC

**Level:** BASIC

**CE Credit:** 1.5

**MODERATOR**
- #Octavia Palmer, PhD, FAACC
  - University of Pittsburgh Medical Center, Pittsburgh, PA

**SESSION OVERVIEW:** Clinically irrelevant testing may contribute to negative patient outcomes (expensive subsequent tests/invasive procedures, initiation of therapeutics, increased hospital stay, iatrogenic anemia, and morbidity/mortality). The clinical laboratory can play a major role in test utilization by leading a multi-disciplinary team focused on developing and implementing customized evidence-based medicine test guidelines and interpretative comments for test results.

**EXPECTED OUTCOMES:** After this session, participants will be able:
1. Communicate the role that laboratories can play in participating in the EMR and Computerized Physician Order Entry enterprises.
2. Identify evidence-based content that can be leveraged in the EMR/CPOE to improve laboratory test utilization.
3. Identify tests that benefit from interpretative comments and develop appropriate interpretative comments.
4. Design and implement test utilization monitoring to identify positive patient outcomes.

**SPEAKERS**
- **Providing Meaningful Text Interpretation to Drive Cost Savings and Effective Test Utilization**
  - Octavia Palmer, PhD, FAACC
  - University of Pittsburgh Medical Center, Pittsburgh, PA

**How to Implement Evidence-Based Content in the Electronic Medical Record (EMR) to Improve Laboratory Test Utilization**
- Eugenia Zabalia, PhD
  - OhioHealth MedCentral Mansfield Hospital, Mansfield, OH

**TRACK:** Utilization & Lab Management

**10:30am–12:00pm**

**Jumping the Pediatric Reference Interval Hurdles**

**35109**

McCormick Place, S105BC

**Level:** BASIC

**CE Credit:** 1.5

**MODERATOR**
- #Amy Pyle-Eilola, PhD, DABCC
  - Nationwide Children’s Hospital, Columbus, OH

**SPEAKERS**
- Developed in cooperation with the Pediatric and Maternal-Fetal Division

**SESSION OVERVIEW:** Ideal methods for establishing reference intervals are generally not feasible for pediatric populations, forcing labs to turn to alternative approaches. This session will review CLSI guidelines for generating reference intervals and discuss real-world applications to pediatrics.

**EXPECTED OUTCOMES:** After attending this session, participants will be able to:
1. Establish reference intervals in their own laboratory by identifying the appropriate samples to use.
2. Recognize tools and tricks available to validate and transfer reference intervals from other laboratories or publications.
3. Start their own program for identifying and storing normal pediatric samples.

**SPEAKERS**
- Basics of Pediatric Reference Intervals
  - Brenda Sah-Liast, PhD, DABCC
  - Ann & Robert H. Lurie Children’s Hospital of Chicago/Northwestern University, Chicago, IL

**A Large-Scale Approach to Pediatric Reference Intervals**
- Joelv Strasek, PhD, DABCC, FAACC
  - ARUP Laboratories/University of Utah, Salt Lake City, UT

**Practical Approaches to Pediatric Reference Intervals**
- Amy Pyle-Eilola, PhD, DABCC
  - Nationwide Children’s Hospital, Columbus, OH
INTENDED AUDIENCE: This session is intended for pathologists, clinical practitioners, laboratory directors, clinical chemistry professionals, laboratory managers, federal and state regulators, technologists, IVD industry scientists, IVD managers and healthcare economists.

SESSION OVERVIEW: Strategic biomarker selection for rapid and accurate traumatic brain injury (TBI) rule-out/rule-in will be discussed. Interpretation of the first FDA-cleared TBI test, coined the Brain Trauma Indicator, will be presented. Biomarker applications for aiding in clinical evaluation of symptomatic patients and appropriate utilization along with head CT will be discussed.

EXPECTED OUTCOMES: After attending this session, participants will be able to:
1. Identify strategies for identifying, quantifying and validating potential TBI biomarkers.
2. Discuss the algorithm for interpretation of the Brain Trauma Index.
3. List ways that TBI biomarkers can be used to benefit patients and decrease healthcare costs.

SPEAKERS
- Discovery and Characterization of Biomarkers for the Rapid Identification of Traumatic Brain Injury
  *Frank Peacock, MD, FACEP
  Baylor College of Medicine, Houston, TX

- Measurement and Interpretation of the Brain Trauma Index
  *Robert Christenson, PhD, DABCC, FAACC
  University of Maryland School of Medicine, Baltimore, MD

- How Biomarkers of Traumatic Brain Injury Will Contribute to Clinical Management of TBI
  Robert Welch, PhD
  Wayne State University School of Medicine, Detroit, MI

AACC BOOTH
Stop by and visit booth #2231 to learn how AACC is at the forefront of new approaches in laboratory medicine, as well as addressing the complexity of an evolving healthcare landscape and promoting new thinking and new skills.

AACC MEMBER LOUNGE
AACC members are welcome to visit the Member Lounge located at the AACC booth #2231 on the Expo show floor. This members-only benefit provides a place to recharge between sessions, mingle with colleagues, and enjoy light refreshments.

AACC Booth/Member Lounge Hours
- Tuesday–Wednesday: 9:30am–5:00pm
- Thursday: 9:30am–1:00pm

Member Lounge Activities
- Tuesday, July 31
  SYCL Meet & Greet: 1:00pm–2:00pm
  Artery Happy Hour: 3:00pm–5:00pm
  (RSVP required — see the Artery for details)

- Wednesday, August 1
  SYCL Meet & Greet: 1:00pm–2:00pm
  International Travel Grant Sweet Treat Break: 2:00pm–4:00pm
  (non-members welcome)

AACC STORE
Plan to visit the AACC store to browse some of AACC’s bestsellers and AACC merchandise for purchase, including t-shirts, wearables and gifts. Select book titles will be discounted by 33% and are cash and carry (no shipment).

AACC Store Hours
- Sunday–Wednesday: 9:00am–5:00pm
- Thursday: 9:00am–1:00pm

BOOK SIGNINGS
Two book signings will take place in the AACC Store this year. Don’t miss your chance to meet with the author and get your copy signed.
- Monday, July 30, 10:30am–11:30am
  John Carreyrou
  Bad Blood: Secrets and Lies in a Silicon Valley Startup
- Tuesday, July 31, 9:00am–10:00am
  Alan Wu, PhD
  Dr. Wu will be signing all his books. Some titles available in Chinese and Italian.
HELP THE NEXT GENERATION OF LABORATORY MEDICINE SCIENTISTS

AACC’s International Travel Grant Program is a way for you to give back to the clinical chemistry profession. Through your generous donations, emerging laboratory scientists from outside the U.S. and Canada are supported and encouraged to contribute to excellence in the profession. These grants bring laboratory scientists from all over the world to the AACC Annual Scientific Meeting, allowing them to network with colleagues, attend cutting-edge scientific sessions and tour the AACC Clinical Lab Expo.

“Being an academic as well as a clinical laboratory scientist, I have to guide graduate students in their thesis. Hence, the knowledge and skill I gain during the AACC Annual Scientific Meeting can easily and fruitfully be transferred to the students during their research work so that they will have an opportunity to develop new techniques in the diagnosis and treatment of diseases.”

— Dr. Dipendra Raj Pandeya, Saudi Arabia

DONATE TODAY. HERE’S HOW:

- Go to www.aacc.org/donate.
- Email us at itg@aacc.org.

Thank you to all donors who made these grants possible this year. A list of recent donors can be found at www.aacc.org/access/donors.

MEET THIS YEAR’S INTERNATIONAL TRAVEL GRANTEES REpresentING 15 COUNTRIES AND FOUR GLOBAL REGIONS. JOIN US FOR COFFEE, COFFEE, AND A CHANCE TO HEAR ABOUT THEIR EXPERIENCES, LEARN FROM EACH OTHER AND HELP SPREAD WIDE ABOUT WHAT THE ACCESS PROGRAM WEDNESDAY, AUGUST 1 FROM 2:00PM-4:00PM AT THE AACC BOOTH #2231.

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LF = Laboratory Faculty AACC Academy vs. CLS Council
CONTINUING EDUCATION CREDIT

ACCREDITATION

The American Association for Clinical Chemistry, Inc. (AACC), is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. AACC designates the following sessions for AMA PRA Category 1 Credit™ (refer to individual session descriptions to see number of designated credits):

- Plenary Sessions
- Scientific Sessions
- Brown Bag Sessions
- Meet the Expert Sessions

AACC also designates the sessions listed for ACCENT® credit. ACCENT is an approved provider of continuing education (CE) for clinical laboratory scientists licensed in states that require documentation of CE, including California, Florida, Louisiana, Montana, Nevada, North Dakota, Rhode Island, Tennessee, and West Virginia. ACCENT credit is also recognized by several organizations: AAB, ACC, ACS, AMT, ASCP, ASQ, ASP, CAP, JCCE, IAC and NRCC.

Important note: Please read session descriptions to check if both types of credit—AMA PRA Category 1 Credit™ and ACCENT credit—are available (indicated as "CE Credit in this guide"). If only ACCENT credit is available.

Credit amounts are subject to change. For the most up-to-date information on credits available by session, check the mobile app, or visit www.aacc.org/2018am and select "Conference Program." Credit amounts are subject to change.

Attendees should only claim credit commensurate with the content and duration of their participation in activities.

CE/CME CREDIT AND CERTIFICATE OF ATTENDANCE INFORMATION

1. To claim your credits and/or to obtain your Certificate of Attendance, click the CE/CME icon on the AACC mobile app, or go to www.aacc.org/AMedEd18.
2. Log in using your AACC User Number (or badge name) and your last name.
3. For CE and CME credits, you will be required to evaluate each session attended; then print (or save) your Verification of Participation (credit) certificate.
4. Sessions that you attend where your name badge is scanned will automatically appear in your session list. You may add more sessions to your list and you may delete sessions.

5. Credits may be claimed at any time, i.e., at the end of each session, each day, or after the meeting ends.

6. Credits may be claimed using a computer, laptop, tablet, smartphone or other digital computer. Documents will be available on site at the AACC booth #2231.

7. Credits for the 2018 AACC Annual Scientific Meeting must be claimed by June 1, 2019, with the exception of credits claimed by Florida-licensed laboratory professionals (see information below).

Special Notice for Florida Laboratory Professionals Receiving ACCENT® Credit

If you would like to report your credits to CE BROKER, you must claim your credits within 30 days of the AACC Annual Scientific Meeting and provide your Florida license number when you go online to claim your ACCENT® credits.

Special Notice for California Clinical Laboratory Scientists Receiving ACCENT® Credit

When submitting your ACCENT® Verification of Participation certificate, please contact the California state licensing agency, to be sure to sign your attendance in the designated space.

Eligibility to Earn Continuing Education Credit

You must be registered for the Annual Scientific Meeting* to be eligible to earn continuing education credits. *Credit is also recognized by several organizations: AAB, ACC, ACS, AMT, ASCP, ASQ, ASP, CAP, JCCE, IAC and NRCC.

You may add more sessions to your list and you may delete sessions. Eligibility to Earn Continuing Education Credit

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FREQUENTLY ASKED QUESTIONS

How do I get credit for the scientific sessions (Plenary, Scientific Sessions, Meet the Expert, Brown Bag and Poster sessions)?

When you are ready to claim your credits, click on the CE/CME icon on the mobile app, or go to www.aacc.org/AMcredits18 and follow the instructions to evaluate each session you attended and then print (or save) your Verification of Participation (credit) certificate.

What is the deadline for claiming credits or getting a Certificate of Attendance for the 70th AACC Annual Scientific Meeting?

The deadline for claiming credits and getting your Certificate of Attendance for this year’s meeting is June 1, 2019, with the exception of Florida laboratory professionals (see further information below).

Do I need to take any additional steps for my ACCENT® credit if I am a clinical laboratory scientist in Florida?

Yes, if you would like AACC to report your credits to CE BROKER, enter your Florida Department of Health license number when you go online to obtain your ACCENT® credits. You must obtain your credits within 30 days of the AACC Annual Scientific Meeting.

Do I need to take any additional steps for my ACCENT® credit if I am a clinical laboratory scientist in California?

Yes, you must sign your ACCENT® Verification of Participation certificate(s) before submitting to the California state licensing agency.

How do I get ACCENT® credit for Poster Sessions?

To obtain ACCENT® credit for Poster Sessions, click on the CE/CME icon on the mobile app, or go to www.aacc.org/AMcredits18 and follow the same steps as you would for claiming credits for other scientific sessions.

What’s the difference between ACCENT® credit and AMA PRA Category 1 Credit™?

ACCENT® credit is for clinical laboratory professionals, and AMA PRA Category 1 Credit™ is for physicians only.

Can I obtain my continuing education credits or Certificate of Attendance on site at the Annual Scientific Meeting?

Yes, there will be a computer at the AACC booth #2231. You may use your own computer, laptop, tablet, smartphone or other electronic device.

How do I get my Certificate of Attendance for the 70th AACC Annual Scientific Meeting?

Click on the CE/CME icon on the mobile app, or go to www.aacc.org/AMcredits18 and follow the instructions to obtain your Certificate of Attendance. You will need your AACC Customer Number (or badge number) located on your badge.

Who can answer additional questions about continuing education credit?

Contact the AACC Education Team at education@aacc.org.

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Firm principles, sound resources and a shared vision: this is how my laboratory defines partnership. By applying the core principles of the Beckman Coulter Diagnostics Difference, we improved performance and fostered laboratory excellence. I am now empowered to define my tomorrow and:

▶ Build a culture of continuous improvement
▶ Monitor and measure our key performance indicators
▶ Utilize comprehensive, innovative clinical diagnostic solutions
▶ Maximize laboratory uptime and effectiveness

See how real laboratories are using the Beckman Coulter Dx Difference to define their tomorrow at booth 3612.

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From declining reimbursement to a shortage of medical professionals, the demands placed on my laboratory have never been more complex. Aligning our people, processes and technology has **empowered us to tackle today’s challenges** head on and take control of our tomorrow.

We're ready to:

- Elevate efficiency, effectiveness and patient care
- Unify multiple systems to achieve network-wide efficiency
- Create consistent experiences for patients, caregivers and communities
- Foster a culture of collaboration and positive change

See how real laboratories are defining their processes at booth 3612.