

**AACC**

Better health through laboratory medicine.



# 69TH AACC ANNUAL SCIENTIFIC MEETING & CLINICAL LAB EXPO

JULY 30 - AUGUST 3, 2017  
SAN DIEGO, CA USA



**NEW PORTFOLIO**

# ONE

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- Workflow • Standardization
- Analytics • Inventory
- Performance



» Move healthcare forward.

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# OFFICES & MEETING SERVICES

## REGISTRATION

Location: Lobby D

Saturday	Noon - 5:00pm
Sunday	8:00am - 6:30pm
Monday - Wednesday	7:00am - 5:00pm
Thursday	8:00am - 1:00pm

## AACC STORE

Location: Lobby E

Plan to visit the AACC store to examine some of AACC's new titles that have been released since last year's meeting and all the other bestsellers. AACC merchandise is available for purchase including t-shirts, AACC wearables, and gifts. The AACC Store is open from Monday through Thursday.

### AACC Store Hours

Monday - Wednesday	9:00am - 5:00pm
Thursday	9:00am - 1:00pm

## AACC EDUCATION AND ACCENT/CME BOOTH

Location: Lobby F

Learn about AACC Education offerings and get assistance claiming ACCENT® and CME credit. See page 96 for detailed instructions and getting a certificate of attendance. This information can also be found on [www.aacc.org/AMCredits17](http://www.aacc.org/AMCredits17). If you have additional questions, visit the ACCENT/CME booth or send an email to [education@aacc.org](mailto:education@aacc.org).

## HOUSING

Location: Lobby F

Representatives from Spargo, AACC's official housing agency, will be available to assist with your hotel accommodations.

## INTERNATIONAL TRADE CENTER

Location: Sails Pavilion

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.

Monday - Wednesday	9:00am - 5:00pm
Thursday	9:00am - 1:00pm

Note: All locations are in San Diego Convention Center unless otherwise noted.

## AACC MEMBERSHIP

Membership information and applications are available in the AACC Store, the AACC Booth #3539, and at the AACC Conference Registration Desk. One year Professional Member dues are \$229, Professional Affiliate dues are \$135, Transitional Dues are \$77 and Trainee dues are \$37. You can customize your membership by joining one or more divisions that target your specialized area(s) of interest for an additional \$15, \$20 or \$25 each, depending on the division(s) you select.

## AACC HEADQUARTERS OFFICE

Location: Room 23AB Phone: 619.525.6219

Contact the AACC Office if you have questions about registration, or general questions about the meeting (session times/locations or expo times/locations).

Also use this number if you have an emergency situation.

Nursing Room Access – Visit the AACC Office for access to the designated nursing room facilities onsite.

### AACC Headquarters Office Hours

Friday	Noon - 5:00pm
Saturday	Noon - 5:00pm
Sunday	8:00am - 6:30pm
Monday - Wednesday	7:00am - 6:00pm
Thursday	8:00am - 4:00pm

## BAGGAGE CHECK

Location: Lobby A and Lobby G

Tuesday - Wednesday	7:00am - 6:00pm
Thursday	7:00am - 2:00pm

Per item: Coat Check, Bag or Poster \$5

## CLINICAL LAB EXPO

Location: Exhibit Hall A – H, Ground Level

Tuesday - Wednesday	9:30am - 5:00pm
Thursday	9:30am - 1:00pm

Refer to *Exhibit Guide* for exhibit listing and booth descriptions.

AACC permits individuals age 16 and 17 with a photo ID to register for and attend the 69th AACC Annual Scientific Meeting & Clinical Lab Expo if accompanied by a registered adult. Children under 16 are not permitted on the exhibit floor or in the educational sessions at any time.



## FIRST AID/EMERGENCY

### Emergency Phone Number:

Dial 5911 from any telephone in the Convention Center. In hotels, dial 0 from any phone.

## PRESS ROOM

Location: Room 25A

Phone: 619.525.6214 and 619.525.6215

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 also is 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 26A to conduct interviews. Use of this room is by appointment only and subject to availability.

### Press Conferences

Press conferences take place in Room 25B or 25C. Details of scheduled press conferences are available from the press room. Press conferences are open to all registered journalists.

## 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.

## LOCATION OF ACTIVITIES

### San Diego Convention Center

- Scientific Sessions, Plenary Sessions, Symposia, Meet the Expert Sessions, Brown Bag Sessions, Short Courses, AACC University, Oral Abstract Sessions, President's Invited Sessions, Chair's Invited Session
- Special Session
- AACC Clinical Lab Expo
- New Products Showcase
- Poster Sessions
- Registration
- Industry Workshop Theater Presentations
- OEM Lecture Series Presentations

### Marriott Marquis San Diego Marina

- AACC Community Opening Mixer
- AACC Governance Activities
- Affiliated Organization Meetings
- Industry Workshops

### Manchester Grand Hyatt

- Affiliated Organization Meetings

## DOWNLOAD THE 2017 MOBILE APP

With hundreds of exhibitors to navigate and dozens of educational sessions to attend, planning your busy days at the 69th AACC Annual Scientific Meeting & Clinical Lab Expo is essential to make the most of this dynamic event.

Now you can do all that and more with the FREE 2017 AACC Annual Scientific Meeting & Clinical Lab Expo app. Available for smartphones and tablets from the Apple App store and on Google Play for Android devices.

- Plan each day with a built-in calendar
- Browse exhibitors and map out your path through the Expo
- Browse through new products available at the Expo
- Organize your notes about exhibitors or check off which ones you've visited
- Follow live tweets and other social media about the meeting

### To Download:

- visit [www.aacc.org/2017app](http://www.aacc.org/2017app)
- Search for the app on the Apple App Store or on Google Play

# SHUTTLE SCHEDULE

## SHUTTLE BUS SERVICE TO THE SAN DIEGO CONVENTION CENTER

Date	Service Hours	Departures
SUNDAY JULY 30	9:00am - 6:00pm* 7:00pm - 8:30pm	Every 15 minutes from Opening Mixer from SDCC
MONDAY JULY 31	6:00am - 10:00am 10:00am - 3:00pm 3:00pm - 6:30pm*	Every 15 minutes Every 30 minutes Every 15 minutes
TUESDAY AUGUST 1	6:00am - 10:00am 10:00am - 3:00pm 3:00pm - 6:30pm*	Every 15 minutes Every 30 minutes Every 15 minutes
WEDNESDAY AUGUST 2	6:00am - 10:00am 10:00am - 3:00pm 3:00pm - 6:30pm*	Every 15 minutes Every 30 minutes Every 15 minutes
THURSDAY AUGUST 3	7:00am - 11:00am 11:00am - 6:00pm*	Every 15 minutes Every 30 minutes

\* Last time shuttle departs convention center to hotels. Last shuttle departs hotel going to the Convention Center one hour prior to this time.

Shuttle Schedule may vary due to traffic & weather conditions.

## SPECIAL TRANSPORTATION

AACC Community Opening Mixer –  
Marriott Hotel and Marina  
Sunday, July 30

Return transportation from the Convention Center  
7:00pm - 8:30pm, every 15 minutes

### Morning Industry Workshops

Tuesday, August 1 and Wednesday, August 2

Transportation provided from Route Hotels to the Marriott Hotel and Marina and Manchester Grand Hyatt and from 6:30am - 8:30am, every 15-20 minutes.

## WALKING HOTELS TO/FROM THE CONVENTION CENTER

- Hard Rock Hotel
- Hilton San Diego
- Hilton Sand Diego Gaslamp Quarter
- Horton Grand Hotel
- Hotel Solamar
- Omni San Diego
- Pendry San Diego
- Residence Inn by Marriott Gaslamp
- San Diego Marriott Gaslamp Quarter
- San Diego Marriott Hotel and Marina



## IF YOU NEED TO ARRANGE WHEELCHAIR-ACCESSIBLE TRANSPORTATION

Please call 404.597.7757 at least 12 hours prior to pick-up or see a shuttle supervisor at the Convention Center.

# SAN DIEGO 2017

# ROUTES & BOARDING LOCATIONS

Route#/Color	Hotel	Boarding Location
#1 - Red	Embassy Suites San Diego Bay Downtown	Curbside in front
	Wyndham Sand Diego Bayside	Curbside on Harbor Drive
	Residence Inn Bayfront	Curbside on Pacific Hwy
	Springhill Suites Bayfront	At Residence Inn Bayfront
	Manchester Grand Hyatt	Curbside on Harbor Drive
#2 - Blue	Westin Gaslamp	Curbside 1st Ave. at E Street
	The Westgate	Walk to Westin Gaslamp on 1st Ave. at E Street
	Westin San Diego	Curbside on Broadway
	The Sofia Hotel	Walk to Westin Gaslamp on 1st Ave.
	Renaissance Hotel Downtown	Walk to Westin Sand Diego on Broadway
#3 - Green	Hampton Inn by Hilton San Diego Downtown	Curbside on Pacific Highway
	Residence Inn by Marriott San Diego Downtown	Curbside on Pacific Highway
	Hilton Garden Inn Bayside	Curbside on Pacific Highway
	Homewood Suites Bayside	Curbside on Pacific Highway
	Doubletree by Hilton San Diego Downtown	Curbside Union Street Entrance
#4 - Yellow	Four Points by Sheraton San Diego Downtown	At Doubletree by Hilton on Union Street
	Courtyard by Marriott Downtown Gaslamp	Curbside on 6th Ave.
	The US GRANT	At Courtyard by Marriott Downtown Gaslamp
	Andaz San Diego	Curbside on F Street
#5 - Orange	Courtyard by Marriott Downtown	At Andaz Curbside on F Street
	Sheraton San Diego Hotel & Marina	Curbside Harbor Island Drive for Marina Tower and Bay Tower
	Hilton San Diego Harbor Island	Curbside Harbor Island Drive

# HOTEL INFORMATION

Hotel	Address	Fitness Center	Restaurant	Room Service	Miles To Convention Center
1 Andaz San Diego	600 F Street	+	+	+	0.70
2 Courtyard by Marriott San Diego Downtown	530 Broadway	+	+	+	0.80
3 Courtyard San Diego Gaslamp/Convention Center	453 6th Avenue	+	+		0.30
4 DoubleTree San Diego Downtown	1646 Front Street	+	+	+	1.00
5 Embassy Suites San Diego Bay Downtown	601 Pacific Highway	+	+	+	0.40
6 Four Points by Sheraton San Diego Downtown	1617 1st Avenue	+	+	+	1.00
7 Hampton Inn San Diego Downtown	1531 Pacific Highway	+			2.00
8 Hard Rock Hotel San Diego	207 5th Avenue	+	+	+	0.10
9 Hilton Garden Inn San Diego Downtown/Bayside	2137 Pacific Highway	+	+	+	2.00
10 Hilton San Diego Airport/Harbor Island	1960 Harbor Island Drive	+	+	+	5.00
11 Hilton San Diego Bayfront	One Park Boulevard	+	+	+	0.00
12 Hilton San Diego Gaslamp Quarter Hotel	401 K Street	+	+	+	0.10
13 Homewood Suites by Hilton San Diego Downtown/Bayside	2137 Pacific Highway	+	+	+	2.00
14 Horton Grand Hotel	311 Island Avenue		+	+	0.30
15 Hotel Solamar, A Kimpton Hotel	435 6th Avenue	+	+	+	0.30
16 Manchester Grand Hyatt San Diego - Co-Headquarters Hotel	One Market Place	+	+	+	0.30
17 Marriott Marquis San Diego Marina - Co-Headquarters Hotel	333 West Harbor Drive	+	+	+	0.00
18 Omni San Diego Hotel	675 L Street	+	+	+	0.20
19 Pendry San Diego	550 J Street	+	+	+	0.30
20 Renaissance San Diego Downtown	421 West B Street	+	+	+	0.90
21 Residence Inn San Diego Downtown	1747 Pacific Highway	+	+		1.00
22 Residence Inn San Diego Downtown/Bayfront	900 Bayfront Court	+			2.00
23 Residence Inn San Diego Downtown/Gaslamp Quarter	356 6th Avenue	+			0.20
24 San Diego Marriott Gaslamp Quarter	660 K Street	+		+	0.20
25 Sheraton San Diego Hotel & Marina	1380 Harbor Island Drive	+	+	+	4.00
26 Sofia Hotel, The	150 West Broadway	+	+		0.70
27 SpringHill Suites San Diego Downtown/Bayfront	900 Bayfront Court	+			2.00
28 US GRANT, a Luxury Collection Hotel	326 Broadway	+	+	+	0.70
29 Westgate Hotel San Diego	1055 2nd Avenue	+	+	+	0.70
30 Westin San Diego	400 W Broadway	+	+	+	0.90
31 Westin San Diego Gaslamp Quarter	910 Broadway Circle	+	+	+	0.50
32 Wyndham San Diego Bayside	1355 North Harbor Drive	+	+	+	1.50

All hotels have high-speed internet available, and are non-smoking properties.



# 2017 SUPPORTERS

AACC thanks the following companies for their generous support in 2017.



As of June 2, 2017

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# GOVERNANCE & SPECIAL EVENTS

## SATURDAY JULY 29

		Marriott Marquis San Diego Marina	Manchester Grand Hyatt	Location
7:00am - 2:00pm	CACB Oral Exams		■	Hillcrest D
8:00am - 5:00pm	CSCC Council Meeting		■	Torrey Hills
Noon - 4:00pm	CACB Board of Directors Meeting		■	Mission Beach B
1:00pm - 4:00pm	Management Sciences & Patient Safety Division Executive Committee Meeting		■	Hillcrest C
1:00pm - 5:30pm	SYCL Workshop: Developing an Influential Leadership Role for Laboratory Professionals	■		Marina Ballroom Salon E
5:30pm - 8:30pm	22nd Annual Management Sciences & Patient Safety Leadership Seminar		■	Hillcrest A
6:00pm - 8:00pm	SYCL Mixer: Anchors Aweigh	■		Coronado/Coronado Terrace

## SUNDAY JULY 30

7:00am - 12:30pm	CACB Oral Exams		■	Hillcrest D
7:30am - 9:00am	CSCC Annual Meetings Committee Meeting		■	Cortez Hill A
	CSCC Pediatric Focus Group Meeting		■	Cortez Hill B
	CSCC Quality Management Working Group		■	Cortez Hill C
9:30am - 11:30am	Critical and Point-of-Care Division Executive Committee Meeting	■		Del Mar
11:00am - 6:00pm	AACC Philadelphia Local Section Mini-Symposium: Current Topics in Lab Medicine	■		Marina Ballroom Salon G
Noon - 2:30pm	NGSP Steering Committee Meeting	■		Cardiff
Noon - 4:30pm	GLQI Mini-Workshop: Adding Value to Patient Care Using Quality Control	■		Marina Ballroom Salon E
6:45pm - 8:00pm	AACC Community Opening Mixer	■		Marriott Grand Ballroom
7:30pm - 9:00pm	Pediatric and Maternal-Fetal, Industry, Informatics & Clinical Translational Science Divisions Joint Mixer	■		Mission Hills
7:45pm - 10:30pm	AACC Awards Recognition Dinner	■		Presidio

## MONDAY JULY 31

6:30am - 8:00am	Ohio Valley/Northwest Ohio/Michigan Local Sections Breakfast		■	Balboa A
7:00am - 8:30am	AACC Southeast Local Section Breakfast & Business Meeting	■		Presidio
7:00am - 9:00am	Tumor Markers & Cancer Diagnostics Inaugural Lecture	■		Santa Rosa
7:30am - 9:00am	CSCC Quality Management Working Group		■	Cortez Hill A
7:30am - 10:30am	CSCC CALIPER Breakfast		■	Balboa C
8:00am - Noon	American Board of Clinical Chemistry Board Meeting	■		Cardiff
Noon - 1:30pm	NGSP IFCC Manufacturer Forum	■		Marriott Grand Ballroom Sect. 4
	Biomarkers of Acute Cardiovascular Diseases Division Lunch Meeting	■		Miramar
	IFCC Working Group PTH	■		La Costa
Noon - 2:00pm	Molecular Pathology Division Poster Award Viewing Session	■		Marina Ballroom Salon E
	TDM & Toxicology Division Membership Meeting & Luncheon	■		Mission Hills
	Endocrinology Division Annual Luncheon & Mixer	■		Palomar
Noon - 2:30pm	Clinical Translational Science Division Lunch & Learn	■		Marriott Grand Ballroom Sect. 10
1:00pm - 2:00pm	Student Oral Presentation Contest			SDCC Room 6D/6E
1:00pm - 3:00pm	Industry Division Membership Meeting	■		Catalina
2:15pm - 3:30pm	Student Poster Contest			SDCC Room 6C/6F
5:30pm - 6:30pm	LVD Division Membership Reception & Poster Viewing	■		Marina Ballroom Salon G
5:30pm - 7:00pm	Clinical & Lab Standards Institute Reception	■		Leucadia
	CLSI Member Open House	■		Del Mar
6:15pm - 7:45pm	ABCC-SYCL Joint Reception	■		Presidio
6:30pm - 9:30pm	LVD Division Dinner Lectures & Awards	■		Marina Ballroom Salon F

## TUESDAY AUGUST 1

		Marriott Marquis San Diego Marina	Manchester Grand Hyatt	Location
7:00am - 8:30am	AACC's Asia-Pacific Working Group Meeting	■		Malibu
7:00am - 9:00am	AdvaMedDx Leadership Views on Diagnostics AACC Capital Local Section Breakfast	■ ■		Cardiff/Carlsbad Mission Hills
7:00am - 9:30am	CACB Maintenance of Competence Committee		■	Cortez Hill B
7:00am - 10:00am	ComACC Program Directors' Breakfast Meeting	■		Leucadia
7:30am - 9:00am	CSCC Promotion Committee Meeting (EPOCC)		■	Cortez Hill A
9:00am - 11:00am	Division of Animal Clinical Chemistry General Business Meeting		■	Mission Beach C
11:00am - Noon	Molecular Pathology Division Board Meeting	■		Del Mar
11:00am - 3:00pm	History Division & Membership Meeting	■		Laguna
11:30am - 3:00pm	Informatics Division Membership Meeting & Luncheon	■		Santa Rosa
Noon - 1:30pm	Joint Personalized Medicine & Molecular Pathology Division Luncheon & Awards Presentation	■		Marina Ballroom Salon E
12:30pm - 2:30pm	AACC New Jersey Local Section Meeting CSCC CLB Editorial Board Meeting	■	■	Encinitas Balboa BC
12:30pm - 3:00pm	Division of Animal Clinical Chemistry Lunch & Learn		■	Solana Beach AB
1:30pm - 2:00pm	Personalized Medicine Division Board Meeting	■		Marina Ballroom Salon E
2:00pm - 4:00pm	AACC's Latin American Working Group Business Meeting	■		Malibu
4:30pm - 6:30pm	CSCC "Canada Party" Reception AACC Midwest Local Section Mixer	■ ■	■	Gaslamp A-D Miramar
5:00pm - 7:00pm	CLSI U.S. Tag Meeting	■		Mission Hills
5:30pm - 6:30pm	LVD Division Executive Committee Meeting	■		Dana Point
5:30pm - 7:00pm	Clinical Diagnostic Immunology and Hematology/Coagulation Divisions Joint Mixer	■		Santa Rosa
5:30pm - 7:30pm	Washington University School of Medicine Alumni Reception	■		Presidio
5:30pm - 8:00pm	Laboratory Diagnoses and Therapeutic Monitoring of Patients with Bleeding Disorders: Avoiding Pitfalls... Enhancing Care	■		Marina Ballroom Salon D
6:00pm - 7:30pm	CPOCT Division Business Meeting & Mixer  University of Toronto Alumni & Friends Reception CDC Standardization Forum	■  ■	■	Marriott Grand Ballroom Sect. 10 & 11 Mission Beach B Point Loma/Solana
6:00pm - 9:30pm	Nutrition Division Networking Seminar	■		Catalina
7:00pm - 11:00pm	MS3 Division Mass Spectacular Party	■		Marina Ballroom Salon E
7:30pm - 10:30pm	CPOCT Division Afterglow	■		Marriott Grand Ballroom Sections 10 & 11

## WEDNESDAY AUGUST 2

7:00am - 9:00am	NGSP C-peptide/Insulin Standardization Manufacturer Meeting CACB Oral Exams IFCC CPD Executive Meeting	■  ■	■	Catalina Hillcrest D Cardiff
7:30am - 9:00am	CSCC Monoclonal Gammopathy Interest Group Meeting CACB Training Program Accreditation Committee Meeting CSCC Point-of-Care Testing Interest Group		■ ■ ■	Bankers Hill Cortez Hill A Hillcrest D
Noon - 1:30pm	CSCC Lunch			SDCC Room 6C/D
Noon - 2:00pm	CSCC AGM Luncheon & Awards Presentation		■	Balboa A-C
12:15pm - 1:45pm	AACC Rocky Mountain Local Section Business Meeting	■		Mission Hills
Noon - 2:00pm	AACC Academy (formerly NACB) Membership Meeting & Luncheon	■		Marina Ballroom Salon D
5:30pm - 7:30pm	Winning Organization-Wide Support for Laboratory Proposed Acquisitions	■		Marina Ballroom Salon D

## THURSDAY AUGUST 3

7:00am - 9:00am	CACB First Board of Directors Meeting CSCC First Council Meeting		■ ■	Cortez Hill A Cortez Hill B
7:30am - 10:00am	15th Annual Point-of-Care Coordinators Forum			SDCC Room 31AC
Noon - 1:30pm	IFCC Task Force on Clinical Application of Cardiac Bio-Markers	■		Catalina

If no location is specified, the session will take place at the San Diego Convention Center.

# SCIENTIFIC POSTER SESSIONS

## TUESDAY AUGUST 1

9:30pm - 5:00pm

Cancer/Tumor Markers	A-001 – A-063
Cardiac Markers	A-064 – A-099
Clinical Studies/Outcomes	A-100 – A-153
Endocrinology/Hormones	A-154 – A-223
Factors Affecting Test Results	A-224 – A-280
Hematology/Coagulation	A-281 – A-330
Immunology	A-331 – A-385
Mass Spectrometry Applications	A-386 – A-446

## WEDNESDAY AUGUST 2

9:30pm - 5:00pm

Nutrition/Trace Metals/Vitamins	B-001 – B-028
Animal Clinical Chemistry	B-029 – B-033
Automation/Computer Applications	B-034 – B-056
Electrolytes/Blood Gas/Metabolites	B-057 – B-076
Infectious Disease	B-077 – B-157
Lipids/Lipoproteins	B-158 – B-186
Management	B-187 – B-231
Molecular Pathology/Probes	B-232 – B-272
Pediatric/Fetal Clinical Chemistry	B-273 – B-299
Point-of-Care Testing	B-300 – B-353
Proteins/Enzymes	B-354 – B-385
TDM/Toxicology/DAU	B-386 – B-438
Technology/Design Development	B-439 – B-478



Posters of accepted abstracts can be viewed in the Sails Pavilion of the San Diego Convention Center, on Tuesday, August 1 and Wednesday, August 2.

All posters will be displayed from 9:30am until 5:00pm. Presenting authors for all posters will be in attendance from 12:30pm until 1:30pm. Please refer to the onsite *Abstracts Title Guide* for a complete schedule of posters.

# 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 about 20-30 participants, and last about 30-minutes. Participants must have a 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 AUGUST 1

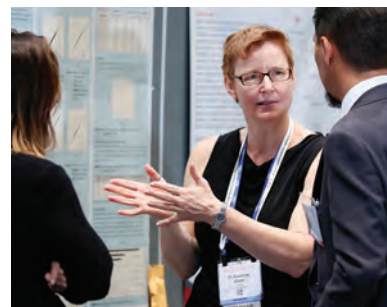
12:30pm - 1:30pm

DIVISION	TOUR LEADER
Biomarkers of Acute Cardiovascular Disease	Alan Wu
Clinical and Diagnostic Immunology	Maria A. Willrich
Clinical Translational Science	Zhen Zhao, Vincent Ricchiuti and Octavia Palmer
Endocrinology	Bill Winter
Mass Spectrometry and Separation Sciences	Frederick Strathmann
Hematology and Coagulation	John V. Mitsios
Nutrition	Elizabeth Frank
Tumor Markers and Cancer Diagnostics	Joshua Hayden

## WEDNESDAY AUGUST 2

12:30pm - 1:30pm

DIVISION	TOUR LEADER
Critical and Point-of-Care Testing	Scott Isbell
Informatics	Chris McCudden
Management Sciences and Patient Safety	Christine Schmotzer
Pediatric and Maternal Fetal	Mark Kellogg



**ALL POSTERS ARE LOCATED IN THE SAILS PAVILION OF THE SAN DIEGO CONVENTION CENTER**

# AACC STUDENT POSTER CONTEST

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.

## AACC ORAL PRESENTATIONS

**Predicting Drug Exposure in Breast-Feeding Infants: Using Physiologically-Based Pharmacokinetic Modeling of Escitalopram in Breast Milk to Simulate Infant Plasma Concentrations**

*Sarah Delaney, University of Toronto, Toronto, ON, Canada*

**Fulvestrant Interference with Six Automated Estradiol Immunoassays and an LC-MS/MS Method: An Analytical and Clinical Investigation**

*Carmen Gherasim, University of Utah, Salt Lake City, UT*

**Breaking Free From the Ratio: Analytical Performance of an Immunoenrichment-Coupled MALDI-TOF MS Detection Method for Monoclonal Immunoglobulin Free Light Chains**

*Lusia Sepiashvili, Mayo Clinic, Rochester, MN*

**Frequency of Instrument, Environment, and Laboratory Technologist Contamination During Routine Diagnostic Testing of Infectious Specimens**

*Melanie Yarbrough, Washington University School of Medicine, St. Louis, MO*

**MONDAY, JULY 31**

San Diego Convention Center

**ORAL PRESENTATIONS**

1:00pm - 2:00pm

Room 6D/6E

**POSTER PRESENTATIONS**

2:15pm - 3:30pm

Room 6C/6F



## 2017 STUDENT POSTER PRESENTERS

### **A-002 Lawson Ekpe**

Diagnostic Significance of Plasma and Ascitic Fluid Cholesterol, Albumin, Protein, and Serum Ascites Ascites Gradient (Saag) in Differentiating Malignant from Cirrhotic Ascite

### **A-010 Rongxue Peng**

A Novel Biomimetic Reference Material for ctDNA

### **A-018 Claire Knezevic**

Development of Multiplexed Mass Spectrometry-based Assays for Urine Biomarkers of Aggressive Prostate Cancer

### **A-019 Patrick Erdman**

Validation of the Ella™ Chromogranin A (CgA) Immunoassay

### **A-033 Felix Leung**

A Biomarker Discovery Platform for Non-serous Ovarian Cancers Using Integrative Proteomics

### **A-035 Yu-Ping Yang**

A Novel Bioluminescence/Fluorescence Platform for Rapid Detection and Post-detection Analysis of Circulating Tumor Cells

### **A-036 Mi Soon Han**

Expression of miRNAs Disregulated by Human Papilloma Virus 16 E5, E6, E7 Oncoproteins in Cervical Carcinogenesis

### **A-048 Joseph Annunziata**

Clinical Significance of Pancreatic Cyst Fluid CEA Level

### **A-059 Liyun Cao**

Genetic Variants in the Vascular Endothelial Growth Factor Pathway as Potential Markers of Ovarian Cancer Risk, Therapeutic Response, and Clinical Outcome

### **A-062 Ventzi Hristova**

The Potential for Ubiquitin Occupancy Profiles in Cancer Biomarker Screening

### **A-076 Fatemeh Fouladkou**

Dietary Biotin Causes a Negative Interference for Troponin I in the Advia Centaur Assay

### **A-095 Xander van Wijk**

Evaluation of Free and Complex Cardiac Troponin I in Serial Samples of MI Patients

### **A-101 Saadet Celik**

Comparison of Neutrophil/Lymphocyte Ratio & Red Blood Cell Distribution Width with Cardiac Markers in Acute Coronary Syndrome

### **A-111 John Hoon Rim**

Effects of Laboratory Results and Lifestyle Parameters on the Development of Non-alcoholic Fatty Liver Disease: The Korean National Health Insurance Service-National Sample Cohort 2009-2013

### **A-159 Zainab Ibrahim**

Adrenocortical Dysfunction Among HIV Infected Patients: Correlation Between Duration of Haart and Development of Dysfunction

### **A-161 Prashant Regmi**

Assessment Of Thyroid Disorders In Rheumatoid Arthritis Patients

### **A-164 Sunkeshari Deshar**

Serum Leptin Level In Hypothalamic Amenorrhea

### **A-193 Aastha Chauhan**

Retrospective Analysis of the Utility of Anti-Thyroglobulin Antibody Testing to Assess Thyroid Autoimmunity

### **A-198 Carmen Gherasim**

Fulvestrant Interference with Six Automated Estradiol Immunoassays and an LC-MS/MS Method: An Analytical and Clinical Investigation

### **A-200 Jessica Gifford**

A High-throughput Test for Diabetes Care: An Evaluation of the Next Generation Roche cobas c 513 Hemoglobin A1c Assay

### **A-213 Danting Liu**

RNase L is Involved in Glucose Homeostasis and Insulin Resistance

### **A-251 Sydney Strickland**

Recognition of Rare Hemoglobin Variants During Hemoglobin A1c Analysis by Capillary Electrophoresis

### **A-252 Joesph Wiencek**

Effect of Seasonal Temperature on Specimens Stored Outside in Courier Lock Boxes

### **A-255 DeLu (Tyler) Yin**

Comparison of Electrophoretic Systems to Detect Occult IgA Monoclonal Immunoglobulins

### **A-259 Victoria Higgins**

National Survey of Adult and Pediatric Reference Intervals in Clinical Laboratories across Canada: A Report of the CSCC Working Group on Reference Interval Harmonization

### **A-261 Yun Wang**

Correction of Lactate Dehydrogenase and Potassium Values of Hemolyzed Specimens

### **A-263 Yifei Yang**

Between-generation Hemoglobin A1 Discrepancies for the Roche Tina-quant Assay

### **A-267 Po-Hsin Lai**

Assessment of Body Fluid Testing Requests and Validation of Methods on the VITROS® 5600

### **A-281 Sandeep Thapa**

Spectrum of Mutations in Hbb Gene Among Thalassemia Major Patients in a Cohort of Nepalese Population

### **A-335 Maryam Salehi**

Investigating the Regulatory Role of a Negative Checkpoint Molecule, VISTA in Endothelial Cells

## 2017 STUDENT POSTER PRESENTERS

### **A-341 Lusia Sepiashvili**

Breaking Free from the Ratio: Analytical Performance of an Immunoenrichment-Coupled MALDI-TOF MS Detection Method for Monoclonal Immunoglobulin Free Light Chains

### **A-342 Jonathan Brestoff**

Diagnosis of Red Meat Allergy with Antigen-Specific IgE Tests In Serum

### **A-351 Talent Theparee**

Adjusted Serum Free Light Chain Reference Ranges on the SPAPlus Platform

### **A-372 Stacy Kenyon**

Assessing the Laboratory Protocol for the Hevylite<sup>®</sup> Assay on a Multiple Myeloma Patient Cohort

### **A-381 Nansy Albtoush**

TSG-6 Neutralizing Monoclonal Antibodies (MAb) as a Potential Therapeutics for Asthma Treatment

### **A-382 Kendall Cradic**

Comparison of Fecal Lactoferrin and Calprotectin as Screening Markers of Inflammatory Bowel Disease

### **A-389 Emma Dewar**

Development of an LC-MS/MS Method for Biomarkers of Alcohol Ingestion for Use with Post-Mortem Samples

### **A-422 Yufei Wang**

Determination of Serum Progesterone by Isotope Dilution Liquid Chromatography Tandem Mass Spectrometry: A Modification of JCTLM Approved Reference Measurement Procedure

### **A-426 Siaw Li Chan**

Development of a Novel, High-sensitivity LC-MS/MS Serotonin Assay for Assessing Platelet Function Using a Minimal Amount of Whole Blood

### **A-430 Brittany Carroll**

Simultaneous Measurement of ThioTEPA and its Metabolite TEPA in Serum and CSF by Turbulent Flow LC-MS/MS

### **A-451 Yicong Yin**

Analysis of Serum Uric Acid Level and the Prevalence of Hypouricemia </B><B>Based on a Multicenter Study In Chinese Population

### **A-456 M Prasad**

Association of 25 OH-Vitamin D and hsCRP in Adults with Essential Hypertension

### **A-457 Eworo Ekong**

Seminal Plasma Total Antioxidant Capacity (Tac), Magnesium and Calcium Levels of Infertile Men

### **B-001 Lizette Rios**

Antidiabetic Activity of Aqueous <i>Kalanchoe pinnata</i> Preparation: Potential Mechanism of Action

### **B-024 Mitchell McGill**

Changes in Laboratory Testing Turnaround Times at a Major Academic Medical Center After Converting to a Total Laboratory Automation System for Chemistry and Hematology

### **B-034 Bingqing Han**

Determination of Serum Calcium Levels by <sup>42</sup>Ca Isotope Dilution Inductively Coupled Plasma Mass Spectrometry

### **B-045 Michelle Parker**

Validation of Spinal Fluid Lactate Measurements and Effect of HIL Interferences Using the Abbott ARCHITECT Plasma Lactic Acid Assay<b></b>

### **B-047 Dorothy Truong**

Increased Disialotransferrin Evident with Chronic Alcohol Consumption

### **B-072 Ticiane Santa Rita**

Automated and Laboratory Information System Integrated Workflow for Simultaneous Detection of Zika, Chikungunya and Dengue Viruses by RT-qPCR in EDTA-plasma, Urine and Seminal-Plasma: A Unique and Comprehensive Test Routine for Brazilian Arboviral Threats

### **B-092 Melanie Yarbrough**

Frequency of Instrument, Environment, and Laboratory Technologist Contamination During Routine Diagnostic Testing of Infectious Specimens

### **B-143 Tianqi Qi**

Comparability of Commercial Assays & Commutability of Evaluated Materials for Apolipoprotein A1 Measurement

### **B-153 Ruhan Wei**

RNASE L Regulates the Expression of Fatty Acid Synthase in The Mouse Liver

### **B-154 Stephen Roper**

The Performance of Calculated and Directly-Measured Low Density Lipoprotein Cholesterol in a Pediatric Population

### **B-158 Gabriel Lima-Oliveira**

Only Fresh Samples Should Be Allowed for Lipid Profile Evaluation

### **B-166 Yuzhu Huang**

Summary and Analysis of Six Years' Blood Pb Internal Quality Control Practice in China

### **B-194 Gabrielle Winston-McPherson**

Failure to Retrieve: A Follow Up Study on Unacknowledged Send-out Results

- B-204 Moustafa Ahmed**  
SHOX2 and SEP9 Genes Hypermethylation as Biomarkers for Plasma-based Discrimination Between Malignant and Nonmalignant Colorectal Lesions
- B-224 Sean Campbell**  
Minimal Residual Disease Monitoring in AML by RT-qPCR of NPM1 mutations
- B-239 Antony Campos-Salazar**  
Polymorphisms on *MTOR* and *FOXP3* Genes are Associated with Impaired Renal Function at One-Year Post-Transplant In Kidney Recipients
- B-243 Tiyash Bose**  
Electrochemically Modified Sensitive Nitric Oxide Sensors for Detecting Nitric Oxide at the Level of Single Cells.
- B-247 Alicia Andrews**  
Heads Up! Fetal Scalp Lactate Misclassification Error Rates Based on Simulation Modelling for the Lactate Pro Meter
- B-251 Mahesheema Ali**  
Comparison of Two Automated Immunoassays for Progesterone to Mass Spectrometry to Aid in the In Vitro Fertilization Setting
- B-253 Lisa Johnson**  
Comparison of LeadCare Ultra<sup>®</sup> to ICP-MS as an Initial Screen for Blood Lead Levels
- B-265 Nicole White-Al Habeeb**  
Verification of CALIPER Pediatric Reference Intervals Using a Large Community Based Pediatric Population
- B-279 Susan Aketch**  
Prevalence and Factors Associated with Diabetes Mellitus in Patients with Tuberculosis
- B-286 Ian Gunsolus**  
Low pO<sub>2</sub> Contributes to Potential Error in Oxygen Saturation Calculations Using a Point-of-Care Assay
- B-304 Yaling Zhao**  
A Sensitive Multiplex Assay for High-Throughput Screening of Malaria Without Nucleic Acid Extraction
- B-305 Daniella Jardim**  
qPCR Genotyping in Crude Serum Separated by Ultralow-cost, Portable and Hand-Powered Paper Centrifuge: Simplification of the Pre-analytic and Extraction Steps for a Future Molecular Point-of-Care Diagnostics
- B-314 Albert Tsui**  
Comparison of Creatinine on the Alere Epoc Blood Analysis System Against Multiple Point-of-Care and Central Laboratory Assays
- B-317 Michael Elias**  
Design and Testing of a Novel Point-of-Care (POC) Device to Convert Whole Blood to Serum at the Bedside for Medical Diagnostics
- B-331 Norah Alghamdi**  
Role of RNase L in Kidney
- B-352 Hao Wang**  
A mutation at Factor VII Protease Domain N-Glycosylation Site May Contribute to the Coagulation Disorder
- B-359 Angela Fung**  
Evaluation of the Semi-Automated Electrochemiluminescence Immunoassay for Cyclosporine, Tacrolimus, and Sirolimus
- B-367 Valentinas Gruzdys**  
Evaluation of Quantitative Microsampling for Immunosuppressant Drug Monitoring
- B-381 Ashton Brock**  
Exploration of Ion Ratio Challenges with Routine THC GC-MS Confirmation Assays
- B-385 Uvaraj Uddayasankar**  
Method Validations for Identification and Quantification of Fentanyl Analogs
- B-395 Sarah Delaney**  
Predicting Drug Exposure in Breast-Feeding Infants: Using Physiologically-Based Pharmacokinetic Modeling of Escitalopram in Breast Milk to Simulate Infant Plasma Concentrations
- B-397 Adam McShane**  
Development and Validation of a Liquid Chromatography-Tandem Mass Spectrometry Assay for the Simultaneous Quantitation of 5 Azole Antifungals and 1 Active Metabolite
- B-400 Karen Yannell**  
Automated Blood Sampling with Paper Spray Ionization Mass Spectrometry: Improving Workflow and the Safe Handling of Human Blood for Personalized Medicine and Clinical Trials
- B-405 Terence Agbor**  
Pilot Study for determination of Infliximab Levels in Inflammatory Bowel Disease Patients
- B-410 Yachana Kataria**  
A Comparison of Methods for Measurement of Plasma Methotrexate in a Pediatric Population
- B-434 Ye Zhao**  
High-throughput, Multiplex Genotyping Directly from Saliva and Buccal Swabs Without DNA Purification

# AACC ACADEMY HONORS NEW ACADEMY FELLOWS

AACC ACADEMY (FORMERLY NACB) IS PROUD TO ANNOUNCE NEW FELLOWS. AS MEMBERS OF THE ACADEMY, THESE DISTINGUISHED SCIENTISTS ARE ACCOMPLISHED DOCTORATE-LEVEL PROFESSIONALS WHO HAVE DEMONSTRATED DEDICATION TO ENHANCING THE SCHOLARSHIP AND PRACTICE OF LABORATORY MEDICINE.

New Fellows will be honored during the Academy awards luncheon on Wednesday, August 2 during the AACC Annual Scientific Meeting.

AACC Academy honors the achievements of its members, recognizes and advances excellence in the field of laboratory medicine, and develops the next generation of leaders. To learn more about the Academy and its activities, visit [www.aacc.org](http://www.aacc.org).

## ACADEMY FELLOWS ADMITTED SINCE JUNE 2016

Ronald Booth, PhD	Shyamali Pal, PhD	Joseph Sebastian, PhD
Jing Cao, MD, PhD	Kushbu Patel, PhD	Rajeevan Selvaratnam, PhD
Allison Chambliss, PhD	Matthew Petrie, MD	Preetpal, Sidhu, PhD
Ronald Henriquez, PhD	Steve Phagoo, PhD	Kimia Sobhani, PhD
Roy Huchzermeier, PhD	Peela Rao, MD	Sarah Wheeler, PhD
Imir Metushi, PhD	Chamila Rupasinghe, PhD	Sarina Yang, PhD
Kent Mitchell, PhD	Kristian Schafernak, MD	

## ASSOCIATE FELLOWS ADMITTED SINCE JUNE 2016

Bolonghoge Dayanath, PhD	Jayesh Warade, MD
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## JOIN THE CONVERSATION

Follow AACC @\_AACC  
and use the hashtag  
#2017AACC to join the  
conversation.



## AACC ACADEMY: 2017 DISTINGUISHED ABSTRACTS AWARDS

The AACC Academy is pleased to announce the winners of the 2017 Distinguished Abstracts Awards. A group of Fellows selected these 25 abstracts for their scientific excellence from a pool of 921 abstracts accepted for the AACC Annual Scientific Meeting. Winning abstracts will display the Academy blue ribbon during the poster sessions.

- A-005 Wenbin Jiang, Chongqing, China**  
Methylation of KLF2 Associates With its Expression and Non-small Cell Lung Cancer Progression
- A-012 Chunni Zhang, Nanjing, China**  
Clinical Implications and Multiple Antitumor Effects of miR-651 and miR-708 in Renal Cell Carcinoma
- A-031 Tracy Morrison, Toronto, ON, Canada**  
Improved Detection of Hidden Beta-2 Monoclonal Proteins by Capillary Electrophoresis Using the Beta-2 to Beta-1 Ratio
- A-055 Brady Culver, Chapel Hill, NC**  
Sensitive and Specific Detection of Variants in Circulating Tumor DNA by Anchored Multiplex PCR and Next-Generation Sequencing
- A-075 Karen Schulz, Minneapolis, MN**  
Diagnostic Performance of High Sensitivity Cardiac Troponin I for the Diagnosis of Myocardial Infarction
- A-118 Shahram Shahangian, Atlanta, GA**  
Prostate-Specific Antigen (PSA) Screening Rates in the United States, 2010-2015: Implications for Practice Interventions
- A-165 David Lin, Salt Lake City, UT**  
Detection and Characterization of Serum Free Light Chains by MALDI-TOF MS in Immunofixation Thyroid-Related Testing Utilization: A Multi-Center Benchmark Study
- A-183 Zhimin Cao, Atlanta, GA**  
Accuracy-Based Proficiency Testing for Testosterone Measurement—A Follow-up Study 2016
- A-252 Joseph Wiencek, Nashville, TN**  
Effect of Seasonal Temperature on Specimens Stored Outside in Courier Lock Boxes
- A-259 Victoria Higgins, Ottawa, ON, Canada**  
National Survey of Adult and Pediatric Reference Intervals in Clinical Laboratories Across Canada: A Report of the CSCC Working Group on Reference Interval Harmonization
- A-341 Lusia Sepiashvili, Rochester, MN**  
Breaking Free from the Ratio: Analytical Performance of an Immunoenrichment-coupled MALDI-TOF MS Detection Method for Monoclonal Immunoglobulin Free Light Chains
- A-349 Roberta Alexander, Vista, CA**  
Complement Activation in Systemic Lupus Erythematosus with Antiphospholipid Antibodies
- A-377 Kari Gurtner, Rochester, MN**  
CSF Free Light Chain Identification of Demyelinating Disease: Overcoming Challenges of Oligoclonal Banding
- A-403 Jeffrey Whitman, San Francisco, CA**  
Adapting High-Resolution Mass Spectrometry for Clinical Toxicology: Comparison and Optimization of SWATH to Data-dependent Acquisition for Drug Screening
- A-404 Lisa Ford, Boston, MA**  
Analytical and Clinical Validation of a Novel Metabolite-based Serum Test to Precisely Determine the Glomerular Filtration Rate (GFR)
- A-424 Robert McCall, Winston-Salem, NC**  
Identification of FLT3 Internal Tandem Duplications by Liquid Chromatography/Tandem Mass Spectrometry
- A-426 Siaw Li Chan, Houston, TX**  
Development of a Novel, High-sensitivity LC-MS/MS Serotonin Assay for Assessing Platelet Function Using a Minimal Amount of Whole Blood
- A-444 Mindy Kohlhagen, Rochester, MN**  
Making the Right Call: Distinguishing Residual M-proteins from Monoclonal Antibody Therapies Used in the Treatment of Multiple Myeloma
- B-64 Stacy Beal, Gainesville, FL**  
Clinical Benefits of the FilmArray GI Panel in an Academic Medical Center
- B-186 John Yundt-Pacheco, Plano, TX**  
Computing a Risk Management Index: Correlating a Quality Control Strategy to Patient Risk
- B-188 Kate Bernhardt, Maywood, IL**  
Urinalysis with Reflex Culture—Test Utilization Initiative and Quality Improvement Model
- B-204 Moustafa Ahmed, Cairo, Egypt**  
SHOX2 and SEP9 Genes Hypermethylation as Biomarkers for Plasma-based Discrimination Between Malignant and Nonmalignant Colorectal Lesions
- B-214 Fang Wu, Salt Lake City, UT**  
Application of Matrix Assisted-Laser Desorption Ionization Time-of-Flight Mass Spectrometry for CYP2D6 Genotype and Copy Number Analysis
- B-261 Antonio Noto, Bari, Italy**  
Urinary Metabolome in Autistic Children and in Their Unaffected Siblings: Preliminary Data on the Role of Oxidative Stress and Gut Dysbiosis
- B-395 Sarah Delaney, Toronto, ON, Canada**  
Predicting Drug Exposure in Breast-Feeding Infants: Using Physiologically-based Pharmacokinetic Modeling of Escitalopram in Breast Milk to Simulate Infant Plasma Concentrations

# 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 (within the last 12 months) 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.
- (#) **A pound sign** – disclosed that they have had no relevant financial relationships with a commercial interest within the past 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 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/2017AM](http://www.aacc.org/2017AM) 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.

### SYMPOSIA SESSIONS

These sessions are presented by highly regarded speakers in traditional lecture format.

### SHORT COURSES

These sessions offer in-depth learning about specific areas of clinical laboratory practice.

## MEET THE EXPERT SESSIONS

*Attendance limited to 75 participants per session.*

These sessions are intense interactive discussions with plenary speakers.

## CHAIR'S INVITED SESSION

The chair of the 2017 Annual Meeting Organizing Committee created this special session of particular importance to attendees. Details on page 41.

## PRESIDENT'S INVITED SESSION

The AACC President has created this special session of particular importance to attendees. Details on page 40.

## ORAL ABSTRACT PRESENTATIONS

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

*This year's meeting features several special sessions in innovative formats described below.*

## MOCK TRIAL – PRESENTING EXPERT TESTIMONY IN THE COURTROOM

A courtroom setting will be used to demonstrate the importance of expert witness testimony in resolving toxicology and clinical chemistry related litigation. Details on page 44.

## LABORATORY MEDICINE FAMILY FEUD

Scientific topics will be covered using the Family Feud game show format, pitting AACC leadership against SYCL members. Details on page 65.

## INFECTIOUS DISEASE QUIZ SHOW

Using a “Quiz Show” format, this case-based session will highlight enhancements in the diagnosis of infectious disease. Details on page 85.

## FXP TOUCH

AACC is excited to offer the second screen technology for audience response, FXP | touch, as a new resource for speakers and attendees. Innovative learning formats and new audience engagement technology will be featured in some Symposia and Short Course presentations. This system will allow attendees to easily ask questions and share thoughts during presentations using their mobile devices. Look for session with this symbol that will utilize this technology.










## CONFERENCE RECORDING

The 69th AACC Annual Scientific Meeting will be recorded and access to the streaming content is available for purchase as an 11-month subscription that will commence in August 2017 and will close at the end of June 2018. 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 close of the meeting (August 3, 2017, 1:00pm PDT). To purchase, visit [www.aacc.org/2017AM](http://www.aacc.org/2017AM).

## REGISTRATION TYPES & EVENTS

REGISTRATION TYPE		FULL CONFERENCE	GUEST/SPOUSE	DAILY	EXPO ONLY	NO REGISTRATION
		- AACC Member - Non-member - Trainee/Student Member - Emeritus Member	Limit 1 per full registrant	Admission/tickets for day registered <i>only</i>	Expo only, Exhibit Hall	
<b>EVENTS</b>						
Plenary Sessions 10000 Series		✓	✓	✓	✗	✗
Symposia 30000 Series		✓	✓	✓	✗	✗
Short Courses 70000 Series		✓	✓	✓	✗	✗
Meet the Experts 60000 Series		✓	✓	✓	✗	✗
AACC University 190000 Series		\$		\$		
Brown Bag Sessions 40000 Series morning 50000 Series afternoon		\$		\$		
Special Events		\$	\$	\$	\$	\$
AACC Community Opening Mixer Sunday, July 30		✓	✓	✓	✗	✗
Clinical Lab Expo Exhibit Hall, August 1 - 3		✓	✓	✓	✓	✗
Lunch Wednesday only, Exhibit Hall (Ticket included with registration)		✓	✓	✓	✓	✗
Poster Sessions Abstracts		✓	✓	✓	✗	✗
Industry Workshops		✓	✓	✓	✓	✗
OEM Lectures		✓	✓	✓	✓	✗

✓ Included with registration type



Ticket required

\$ May purchase ticket



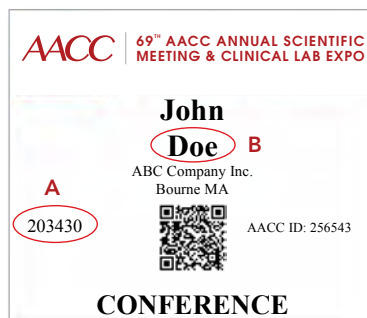
May NOT purchase ticket

✗ May NOT attend

### AACC REGISTRATION RESOURCE CENTER

Access your handouts, obtain CE credit and get a copy of your receipt

1. **Open the Resource Center**  
Go to [www.aacc.org/handouts](http://www.aacc.org/handouts) OR Scan the QR code
2. **Login** – Enter the following to login:  
A. Badge Number: Listed on left side of badge  
B. Last Name: Exactly as entered when registering





**SUNDAY  
JULY 30**

PLENARY & EDUCATION SESSIONS

## PLENARY SESSION 11001 CRISPR BIOLOGY, TECHNOLOGY & ETHICS: THE FUTURE OF GENOME ENGINEERING



**#JENNIFER DOUDNA, PhD**  
University of California Berkeley  
Berkeley, CA

SUNDAY, JULY 30  
5:00pm - 6:30pm  
San Diego Convention Center - Ballroom 20  
Level: Basic CE Credit: 1

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, molecular biologists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** Facile genome manipulation, using precision DNA and RNA recognition, is transforming biology. This presentation will describe how the bacterial adaptive immune system, called CRISPR (which stands for clustered regularly interspaced short palindromic repeats), continues to inspire the development of powerful genome engineering tools. These tools are enabling advances in both fundamental biology and applications to the mammalian brain.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe CRISPR systems and how they work; 2) explain how CRISPR-Cas9 was harnessed as a gene editing technology; and 3) identify current and future applications of CRISPR technology in health and agriculture.

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### WALLACE H. COULTER LECTURESHIP AWARD

The Wallace H. Coulter Lectureship Award recognizes an outstanding individual who has demonstrated a lifetime commitment and made important contributions to laboratory medicine and patient care, significantly advanced education, practice or research.

This award honors Wallace H. Coulter, founder of Coulter Corporation and inventor of the Coulter Principle, a simple but elegant innovation that revolutionized hematology and the practice of laboratory medicine, pioneered the field of flow cytometry and defined particle characterization. AACC's most prestigious award—presented annually at the AACC Annual Scientific Meeting & Clinical Lab Expo—commemorates Coulter's outstanding contributions to diagnostics and his championship of research and innovation. It is fitting that his legacy will be celebrated with lectures by renowned leaders in healthcare.

### 2017 AACC AWARD WINNERS

*To be presented during the  
Opening Plenary Session*

**Jennifer Doudna, PhD**  
University of California Berkeley  
*Wallace H. Coulter Lectureship Award*

**Susan Evans, PhD**  
BioDecisions Consulting  
*Outstanding Lifetime Achievement  
Award in Clinical Chemistry and  
Laboratory Medicine*

**Larry Thomas Mimms, PhD**  
Prometheus Labs  
*The AACC Edwin F. Ullman Award  
for Technology Innovation*

**Eleftherios P. Diamandis, MD, PhD**  
Mount Sinai Hospital  
*Outstanding Contributions in  
Education*

**Ian Young, MD**  
Queens University Belfast  
*Outstanding Contributions Through  
Service to the Profession of Clinical  
Chemistry*

**Mark Marzinke, PhD**  
Johns Hopkins University  
*Outstanding Scientific Achievements  
by a Young Investigator*

**Patricia Jones, PhD**  
Children's Medical Center of Dallas  
*AACC Past President's Award*  
*Supported by Abbott Diagnostics,  
BD and Siemens Healthineers*

### 2017 AACC ACADEMY AWARD RECIPIENTS

**Roland Valdes, PhD**  
University of Louisville  
*AACC Academy Professor Alvin Dubin  
Award for Outstanding Contributions  
to the Profession and the Academy*

**Roy Peake, PhD**  
Boston Children's Hospital  
*AACC Academy George Grannis  
Award for Excellence in Research and  
Scientific Publication*

**Jerry Katzmann, PhD**  
Mayo Clinic  
*AACC-AACC Academy Award for  
Outstanding Contributions to  
Clinical Chemistry in a Selected Area  
of Research*

*Supported by Abbott Diagnostics, BD,  
and Siemens Healthineers*

AACC UNIVERSITY 10:30AM - NOON



**Guidance for Evaluating the Hypoxemic Patient in the Critical Care Setting**

191001

San Diego Convention Center - 30ABC

Level: Intermediate  
CE Credit: 1.5

**MODERATOR**

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

**INTENDED AUDIENCE:** Pathologists, clinicians, laboratorians, and industry scientists.

**SESSION OVERVIEW:** Despite the frequency of measurement and physiologic importance of oxygen, laboratorians are often not familiar with how pO<sub>2</sub>, %O<sub>2</sub>Hb, Hb and other measurements are used to calculate oxygen-related parameters, such as O<sub>2</sub> content, O<sub>2</sub> delivery, A-a difference, PaO<sub>2</sub>/FiO<sub>2</sub> ratio, Oxygenation Index, and how the clinician uses them to evaluate and monitor hypoxemia, pulmonary ventilation, and perfusion in critically ill patients.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) outline the conformational changes of Hb alter its oxygen binding and releasing functions; 2) evaluate pO<sub>2</sub> and sO<sub>2</sub> (%O<sub>2</sub>Hb) measurements in patients breathing room air or oxygen supplemented air, and on ventilators and ECMO (extracorporeal membrane oxygenation); 3) develop skill in evaluating pO<sub>2</sub>, pCO<sub>2</sub>, and oxygen-related calculations for determining the adequacy of arterial oxygenation and ventilation by the lungs; 4) utilize blood gas and cooximetry results to calculate alveolar-arterial pO<sub>2</sub> difference, pO<sub>2</sub>/FIO<sub>2</sub> ratios, and evaluate pulmonary ventilation/perfusion (V/Q) balance; 5) list the potential pitfalls in handling samples for blood gas analysis; 6) explain 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) list the situations when a clinician would request an arterial blood gas test; and 8) employ oxygen measurements and oxygen-related calculations 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



**Trust, But Verify: Getting the Most Out of Verification Protocols for FDA Approved Methods**

191002

San Diego Convention Center - 31ABC

Level: Basic  
CE Credit: 1.5

**MODERATOR**

\*Sten Westgard, MS  
Westgard QC, Inc., Madison, WI

**INTENDED AUDIENCE:** Laboratory directors, laboratory supervisors and managers, medical technologists, and laboratory technicians.

**SESSION OVERVIEW:** Laboratories cannot assume that all FDA-approved methods are acceptable for use in a clinical environment. Therefore, laboratories are responsible for verifying that approved methods perform "as advertised." However, laboratory staff may not have the requisite expertise or knowledge to perform verification studies. During this session, tools will be provided to enable attendees to identify how to implement and interpret the required verification studies performed when evaluating an approved method. The session will draw on both CLSI guidelines as well as assessment tools such as Sigma-metrics.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) establish clinically relevant performance goals for laboratory methods; 2) utilize CLSI guideline documents to verify method performance; 3) recognize and avoid common pitfalls encountered when performing verification studies; and 4) judge objectively the performance of an approved method and if an assay meets the required metrics for the provision of good patient care.

**SPEAKERS**

**Setting Objective Goals for Analytical Performance and Selecting Methods That Can Meet Those Goals**

\*Sten Westgard, MS  
Westgard QC, Inc., Madison, WI

**CLSI Guidelines for Method Verification**

#David Koch, PhD, DABCC  
Grady Memorial Hospital & Emory University, Atlanta, GA

## AACC UNIVERSITY 10:30AM - NOON

**New External Programs for Laboratory Quality Assurance**

191003

San Diego Convention Center - 29ABC

Level: Intermediate

CE Credit: 1.5

## MODERATOR

#Keri Donaldson, MD

*Penn State Milton S. Hershey Medical Center, Hershey, PA***INTENDED AUDIENCE:** Laboratory directors, pathologists, clinical chemists, medical technologists/medical technicians, and IVD industry personnel.**SESSION OVERVIEW:** The session will provide an overview of external quality assurance/proficiency testing programs from the CAP and review relevant CMS requirements and CAP checklists: 1) accuracy based grading PT surveys; 2) multiple instrument comparison (Quality Cross Checks) PT survey; and 3) applications of linearity validation and analytical measurement range for coagulation testing. In addition, the session will review CAP's experience and reporting procedures in these areas.**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the new CAP and CMS requirements for quality assessment; 2) describe the importance of commutable PT samples; 3) discuss the importance of multiple instrument comparisons; 4) apply AMR validation and linearity to coagulation testing; and 5) implement an ongoing quality assessment program that meets the CMS and CAP guidelines.

## SPEAKERS

**CAP's Quality Cross Checks Program**

#Keri Donaldson, MD

*Penn State Milton S. Hershey Medical Center, Hershey, PA***PT Surveys for Coagulation Assays**

\*Charles Eby, MD

*Washington University School of Medicine, St. Louis, MO***Accuracy Based PT Surveys**

#Anthony Killeen, MD, PhD

*University of Minnesota, Minneapolis, MN***Bridging the Gaps Between Laboratory Medicine and Clinical Decision Making: Challenges and Conundrums**

191004

San Diego Convention Center - 32AB

Level: Intermediate

CE Credit: 1.5

## MODERATOR

\*Andrew Don-Wauchope, MBBCh, BScMed(Hons), MD, FRCP Edin, FCPATH(SA), FRCPATH

*McMaster University, Toronto, ON, Canada***INTENDED AUDIENCE:** Technologists, clinical chemists, laboratory director, and pathologists.**SESSION OVERVIEW:** A mix of theory and case-based examples will illustrate the theory of standardization, concepts of traceability and uncertainty of measurement, and how to use external quality control to establish bias or accuracy. An overview of the different types of interferences that affect laboratory results and how the laboratory detects and deals with interferences will also be presented.**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the concepts of traceability and uncertainty of measurement; 2) establish bias and accuracy; 3) determine the appropriate and inappropriate use of clinical cut-points and reference intervals; and 4) differentiate the different types of interferences in general chemistry and endocrine immunoassay testing and how these can be circumvented or investigated.

## SPEAKERS

**Clinical Cut-Points and Reference Intervals in the Clinical Laboratory: A Case Based Perspective of Issues in Clinical Practice**

\*Patrick Twomey, BSc, MBBCh, FRCPATH, EurClinChem, FACB

*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, MBBCh, BScMed(Hons), MD, FRCP Edin, FCPATH(SA), FRCPATH, McMaster University, Toronto, ON, Canada

**Investigation of Interferences in General Chemistry and Endocrine Testing**

#Tahir Pillay, MD, PhD

*University of Pretoria, Pretoria, Gauteng, South Africa*

Registration fees apply for each session.

AACC UNIVERSITY 10:30AM - NOON



**Communicating Effectively When Facing Potential Conflict**

191005

San Diego Convention Center - 28DE

Level: Basic  
CE Credit: 1.5

MODERATOR

#Cherie Petersen, BA

ARUP Laboratories, Salt Lake City, UT

**INTENDED AUDIENCE:** Laboratory directors, pathologists, clinical chemists, supervisors, medical technologists, residents/fellows, IVD industry scientists, and other healthcare professionals who participate in patient care.

**SESSION OVERVIEW:** The work conducted by clinical laboratorians is critical in providing timely patient care. Due to the nature and high-pressure environment as members of the healthcare team, laboratory personnel may encounter conflicts both within and external to the laboratory. This session will detail a simple three-part strategy for managing communication situations where the potential for conflict exists. Session attendees will gain the tools to apply a successful communication strategy and facilitate satisfactory outcomes while avoiding conflict.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) utilize a simple strategy in conflict management and resolution; 2) apply the concepts of personal responsibility, showing vulnerability, and acting with humility when managing conflict; and 3) identify points of common agreement while creating a "safe" environment for addressing potential conflict.

**SPEAKER**

**Communicating Effectively When Facing Potential Conflict**

#Cherie Petersen, BA

ARUP Laboratories, Salt Lake City, UT



**Making Your Core Lab Safe from Ebola and Zika**

191006

San Diego Convention Center - 28ABC

Level: Intermediate  
CE Credit: 1.5

MODERATOR

#Bonny Van, PhD, FACB, HCLD(ABB)

LifeOmic, Indianapolis, IN

**INTENDED AUDIENCE:** Laboratory medicine physicians, laboratory directors, pathologists, clinical chemists, managers, supervisors, medical technologists, residents/fellows, and other healthcare professionals who participate in patient care.

**SESSION OVERVIEW:** Biosafety is an integral part of quality laboratory systems. The Association of Public Health Laboratories (APHL), in partnership with the CDC, is working with a forum of experts from the AACC, ASM, FDA, AAB, CAP, COLA, CMS and the Joint Commission, to provide tools and resources to strengthen biosafety practice in public health and clinical laboratories. The purpose of this session is to facilitate information exchange among clinical laboratory stakeholders to improve biosafety in the nation's clinical laboratories. The session will cover practices, policies, as well as gaps and training needs, with the overall objective of empowering participants to transfer and apply lessons learned to their home institutions.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) define the responsibilities of a biosafety officer; 2) identify resources to update biosafety guidelines and plans within their organization; 3) conduct a biosafety risk assessment to ensure that the lab can safely handle and dispose of highly infectious specimens; and 4) recognize the role of the public health-private clinical lab partnership to improve biosafety at both.

**SPEAKERS**

**Assembling a Biosafety Toolkit to Keep Your Lab Safe**

#Bonny Van, PhD, FACB, HCLD(ABB)

LifeOmic, Indianapolis, IN

**State Public Health Laboratory as Resource for Biosafety**

#Andrew C. Cannons, PhD, HCLD(ABB)

Bureau of Public Health Laboratories, Tampa, FL

**Bad Bugs Don't Stay in the Micro Lab**

\*James Snyder, PhD, D(ABMM), F(AAM)

University of Louisville, Louisville, KY

## AACC UNIVERSITY 1:30PM - 4:00PM


**The Essential Elements of a Point-of-Care Coordinator (POCC) Boot Camp**

192007

San Diego Convention Center - 30ABC

Level: Basic

CE Credit: 2.5

## MODERATOR

#Monica Thomas, MPA, CLS(ASCP)

Cedars-Sinai Medical Center,  
West Hollywood, CA

*Developed in cooperation with Critical and Point-of-Care Testing Division*

**INTENDED AUDIENCE:** Point-of-care coordinators, medical technologists, lab managers/supervisors, pathologists, laboratory directors, clinical chemists, and IVD industry scientists who are involved with Point-of-Care Testing.

**SESSION OVERVIEW** The findings of a recent national survey show a demand for targeted point-of-care (POC) education and application of skills. This session will focus on important elements of communication and networking, device connectivity and operator training techniques, using interactive techniques and audience response.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) list available resources for point-of-care (POC) coordinators; 2) demonstrate professional and diplomatic tips to enable POC operator coaching and checking; 3) outline implementation steps for connectivity and review troubleshooting strategies; and 4) describe competency assessment and training programs for operators and POC trainers.

## SPEAKERS

**Training and Competency: What Scares You About Training the Nurses? Simple Strategies and Processes May Help!**

\*Peggy Mann, MS, MT(ASCP)

University of Texas Medical Branch, Galveston, TX

**Connectivity: Get Out the Tin Cans and String! Saving Your Sanity Using Connectivity for POCT**

\*Kerstin Halverson, MS

Children's Hospitals &amp; Clinics, Minneapolis, MN

**Policies and Procedures: It's Not OUR Fault That Nurses Won't Read Our SOPs! Tips for Making POC Documents User Friendly**

#Lou Ann Wyer, MS, MT(ASCP), CQA(ASQ)

Sentara Healthcare, Norfolk, VA

**Integrating Quality and Compliance into POCT: I Don't Know But I've Been Told, POC Programs Can Be SMART and BOLD**

\*Kimberly Skala, MT (ASCP)

Instrumentation Laboratory, Oak Lawn, IL

**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 by some people as a real or potential 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.

AACC UNIVERSITY 1:30PM - 4:00PM



**Laboratory Developed Tests—  
What's a Laboratory to Do?**



192008

San Diego Convention Center - 28ABC

Level: Intermediate

CE Credit: 2.5

**MODERATOR**

**#J. Rex Astles, PhD, FACB**

*Centers for Disease Control and Prevention,  
Atlanta, GA*

**INTENDED AUDIENCE:** Research and development scientists and anyone else who works to develop new test methods, whether in commercial entities or laboratories that create LDT methods. The session is also appropriate for laboratory staff such as pathologists, laboratory directors, clinical chemists, medical technologists, and other laboratorians who implement manufactured test methods, regardless of whether the methods are commercial or LDTs.

**SESSION OVERVIEW** This session will explore concepts and guidelines for the development and validation of laboratory-developed tests (LDTs) using CLSI documents. The FDA's Quality System Regulations will be described as it applies to manufacturers including laboratories that create LDTs. The session content will reflect the status of the FDA's LDT proposed approach in 2017.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the various steps that occur during the "establishment" of a test method; 2) list the available guidelines for establishment; 3) describe the critical elements of assay validation; 4) explain how the same CLSI protocols that are used by commercial industry to produce reliable test methods are useful to clinical laboratories that develop them; 5) explain how checklists provided in EP19-A can help users document how they demonstrate acceptable evaluations during each step of establishment and implementation; 6) explain the importance of the FDA's Quality System Regulation; 7) explain the relevance of ISO standards to the LDT life cycle, including ISO 15189; and 8) explain how EP19-A, CLSI QSR Guidance, and ISO standards apply in specific scenarios.

**SPEAKERS**

**Introduction to the Assay Lifecycle Model for Manufacturers and End-Users of Clinical Assays**

#Paula Ladwig, MS, MT(ASCP)

*Mayo Clinic, Rochester, MN*

**CLSI Practical Guide to FDA's Quality System Regulation for Laboratory Developed Tests**

\*Luann Ochs, MS

*Clinical and Laboratory Standards Institute, Wayne, PA*

**The Role of ISO Standards in Laboratory Developed Tests**

\*Lucia Berte, MA, MT(ASCP)SBB,DLM; CQA(ASQ)CMQ/OE

*Laboratories Made Better! P.C., Broomfield, CO*

AACC UNIVERSITY 1:30PM - 4:00PM



**Practical Integration of Clinical, Electrophoretic, and Molecular Features of Hemoglobin Disorders**

192009

San Diego Convention Center - 28DE

Level: Intermediate

CE Credit: 2.5

MODERATOR

#Jennifer Oliveira, MD

Mayo Clinic, Rochester, MN

*Developed in cooperation with College of American Pathologists*

**INTENDED AUDIENCE:** Pathologists, hematopathologists, clinical chemists, laboratory technologists and clinical hematologists and oncologists as well as any practicing clinician as they will encounter these common diagnoses.

**SESSION OVERVIEW** Hemoglobin disorders are common and can be associated with a wide variety of clinical phenotypes and severity. These disorders are an excellent model to understand the molecular mechanisms of diseases. There are many different methodologies to evaluate these disorders. This session is a case-based discussion of clinically significant hemoglobin and thalassemia disorders, integrating clinical and laboratory data into the presentation.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) identify the pathogenesis of hemoglobin disorders; 2) review molecular mechanisms of disease as a model using hemoglobin disorders; 3) compare the advantages and limitations of commonly used methods; and 4) recognize situations when ancillary testing is appropriate and beneficial.

**SPEAKERS**

**Common Methods, Mass Spectrometry, and Case Study Review**

#James Hoyer, MD

Mayo Clinic, Rochester, MN

**Molecular Methods and Case Study Review**

#Jennifer Oliveira, MD

Mayo Clinic, Rochester, MN



**Systems, Stakeholders, and Sustaining: Successful Strategies for Improving Laboratory Stewardship**

192010

San Diego Convention Center - 32AB

Level: Basic

CE Credit: 2.5

MODERATOR

#Julia Drees, PhD, DABCC

Kaiser Permanente, Richmond, CA

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, laboratory technologists, IVD industry scientists, and others involved with managing laboratory operations.

**SESSION OVERVIEW** Laboratory stewardship programs to ensure appropriate test utilization and improve test value are becoming increasingly necessary as the costs of complex laboratory testing increases. Modifying electronic ordering systems, improving communication between the laboratory and clinical teams, and implementing structured review of test orders are strategies that are effective in the correct context but can be challenging to develop and sustain. This session will present a variety of proven laboratory utilization tools by describing utilization case studies from three different health systems with different business models and patient populations.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) outline successful strategies for optimizing computerized provider order entry systems and alerts to guide appropriate laboratory utilization; 2) describe the relative strengths and weaknesses of additional test utilization tools such as reflex testing, utilization report cards and education; and 3) identify challenges in ordering genetic tests that contribute to diagnostic error.

**SPEAKERS**

**A Lab-Developed Algorithm for Testosterone and Four Tools for Chipping Away at Vitamin D Volumes**

#Julia Drees, PhD, DABCC

Kaiser Permanente, Richmond, CA

**Tackling Inpatient and Critical Care Utilization with Stakeholder Engagement and Provider Feedback**

#Patrick Mathias, MD, PhD

University of Washington, Seattle, WA

**The Secret Sauce: Facilitating Case Review for Complex Test Requests**

#Jane Dickerson, PhD, DBACC

University of Washington and Seattle Children's Hospital, Seattle, WA

AACC UNIVERSITY 1:30PM - 4:00PM



**Kidney Disease—Laboratory Testing  
Makes a Difference**

192011

San Diego Convention Center - 29ABC

Level: Intermediate

CE Credit: 2.5

**MODERATOR**

**#Christine Collier, PhD, FCACB**

*Kingston General Hospital and Queen's  
University, Kingston, ON, Canada*

*Developed in cooperation with CSCC*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, fellows and trainees, laboratory technologists, and industry scientists.

**SESSION OVERVIEW:** Early detection of kidney disease provides opportunities for targeted interventions that may alter the disease progression and outcomes. This session will examine the clinical value of traditional biomarkers that are currently being used for detecting, investigating and treating patients with AKI and CKD. Participants will be required to assess if the biomarkers are fit for purpose.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) critically discuss the current standard practice for the investigation and monitoring of AKI and CKD; 2) consider ways to improve testing and result interpretation to optimize patient care and outcomes in Kidney Disease; and 3) anticipate new methods that are on the horizon.

**SPEAKERS**

**Optimizing eGFR Use and Interpretation**

**#Graham Jones, DPhil, MBBS, FRCPA**

*St Vincent's Hospital (SydPath), Darlinghurst, NSW, Australia*

**Mobile Screening Programs for Early Detection of CKD**

**\*David Seccombe, MD, PhD, FRCPC**

*CEQAL, Vancouver, ON, Canada*

**CKD—What's New? eGFR Rate of Change and KFR**

**#Christine Collier, PhD, FCACB**

*Kingston General Hospital and Queen's University, Kingston, ON, Canada*

**AKI—Zoom Ahead Five Years!**

**\*John Kellum, MD, MCCM**

*University of Pittsburgh School of Medicine, Pittsburg, PA*

## AACC UNIVERSITY 1:30PM - 4:00PM



**From a Brick to a Fortress: Building a Solid Clinical Mass Spectrometry Method One Brick at a Time**

192012

San Diego Convention Center - 31ABC

Level: Basic

CE Credit: 2.5

## MODERATOR

#Grace Van der Gugten, BSc

St. Paul's Hospital, Vancouver, BC, Canada

**INTENDED AUDIENCE:** Laboratory directors, clinical chemists, laboratory administrators, laboratory managers and supervisors, IVD industry scientists, pathologists, physicians, and medical technologists.

**SESSION OVERVIEW:** This session aims to assist clinical laboratories interested in implementing mass spectrometry. It will cover the fundamentals of liquid chromatography and tandem mass spectrometry, essential considerations and effective approaches for method development and validation, and post-implementation monitoring.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the basics of liquid chromatography and tandem mass spectrometry; 2) create a plan for method development, pre-validation and validation testing; and 3) develop a program for post-implementation monitoring.

## SPEAKERS

**Basics of LC-MS/MS**

#Deborah French, PhD, DABCC, FACB

University of California San Francisco, San Francisco, CA

**LC-MS/MS Method Development and Pre-Validation**

#Grace Van der Gugten, BSc

St. Paul's Hospital, Vancouver, BC, Canada

**Validation and Post-Implementation Monitoring for LC-MS/MS Methods**

#Julianne Botelho, PhD

Centers for Disease Control and Prevention, Atlanta, GA

## 2017 GLOBAL LAB QUALITY INITIATIVE MINI-WORKSHOP 12:30PM - 4:30PM



**Adding Value to Patient Care Using Quality Control**

Marriott Marquis San Diego

Marina Ballroom, Salon E

The workshop, "Adding Value to Patient Care Using Quality Control," is a practical half-day workshop designed to train students and bench technicians on the 'nuts and bolts' of quality control techniques to improve laboratory medicine. With content originally designed to be delivered outside the U.S., AACC has delivered similar, longer-format workshops in Bolivia, Dominican Republic, El Salvador, Ecuador, Guatemala, Mexico, Panama, Paraguay, and Peru, with considerable success. This workshop will be presented in English. Learn more and register at [www.aacc.org/GLQIworkshop](http://www.aacc.org/GLQIworkshop).



# MONDAY JULY 31

PLENARY & EDUCATION SESSIONS

PLENARY SESSION 12001  
**ONCOFERTILITY: FROM BENCH  
TO BEDSIDE TO BABIES**



**#TERESA WOODRUFF, PhD**  
Northwestern University,  
Chicago, IL

MONDAY, JULY 31  
8:45am - 10:15am  
San Diego Convention Center - Ballroom 20  
Level: Basic CE Credit: 1

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, immunologists, molecular biologists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** Life preserving cancer treatments can threaten fertility. More than 1.4 million people are diagnosed in the U.S. with cancer annually; 10% of these individuals are in their reproductive years. As the survival rate for adolescents and children continues to rise, late effects of treatment are taking on new urgency for survivors of this disease. Oncofertility is a new term that describes the effort to preserve fertility for young people with cancer and includes basic reproductive biology, clinical science, ethics, law, economics, pediatric surgery and education sciences. The Oncofertility Consortium was founded to provide fertility options for young cancer patients, develop relationships between oncologists and fertility specialists as a team, and create a global community of practice that is coordinated and sustainable.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the fertility threat posed by cancer treatment; 2) review fertility preservation options available to young cancer patients; and 3) identify challenges to integrating fertility preservation into the medical management of patients with cancer.

**PLEASE REFER TO  
THIS GUIDE WHEN  
MAKING YOUR  
SESSION SELECTIONS**

Each session is identified by a five- or six-digit session number.

**EXAMPLE**

Session 72105 is a:

- A. Short Course
- B. On Monday
- C. In the Morning

**SESSION TYPE**

- A. FIRST DIGIT
  - 1 =Plenary Sessions
  - 3 =Symposia
  - 4 =AM Brown Bag Sessions
  - 5 =PM Brown Bag Sessions
  - 6 =Meet the Expert Session
  - 7 =Short Courses
  - 19 = Sunday AACC University Sessions

**SESSION DAY**

- B. SECOND DIGIT
  - 1 = Sunday
  - 2 = Monday
  - 3 = Tuesday
  - 4 = Wednesday
  - 5 = Thursday

**SESSION TIME**

- C. THIRD DIGIT
  - 1 = am
  - 2 = pm
  - 4 = Mid-day

The last two digits are AACC internal numbers.

## MONDAY MORNING & AFTERNOON

### BROWN BAG SESSIONS 7:30AM - 8:30AM & 12:30PM - 1:30PM



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 Brown Bag Session) unless otherwise noted San Diego Convention Center - 6A/6B

TITLE	SESSION NUMBER		LEVEL	SPEAKERS
	AM	PM		
<b>Reducing Errors While Improving Quality in Your POCT Program</b> <i>Developed in cooperation with Critical and Point-of-Care Testing Division</i>	42101	52201	Basic	<b>#Brenda Suh-Lailam, PhD, DABCC</b> Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL
<b>CLIA Requirements for Validation of Laboratory Developed Tests (LDTs)*</b> <i>Developed in cooperation with Clinical Translational Science Division</i>	42102	52202	Basic	<b>#Vincent Ricchiuti, PhD</b> Laboratory Corporation of America Holdings, Dublin, OH
<b>Critically High Ammonia in an Adolescent: Review of a Clinical Case Study from the Clinical Chemistry Journal*</b>	42103	52203	Intermediate	<b>*Lawrence de Koning, BSc MSc PhD, DABCC FACB FCACB</b> Calgary Laboratory Services, Calgary, AB, Canada
<b>Immunoglobulin Paraprotein Interference with Chemistry Assays</b>	42106	52206	Advanced	<b>*Lu Song, PhD, DABCC</b> UCLA Medical Center, Los Angeles, CA
<b>Prognostication of Heart Failure: Perspectives from Transforming Growth Factors (TGF) Super-Family Members</b>	42107	52207	Intermediate	<b>#Damien Gruson, PhD</b> Cliniques Universitaires Saint Luc, Bruxelles, Belgium
<b>Measurement of Free Vitamin D in the Clinical Laboratory*</b>	42108	52208	Intermediate	<b>*Nicolas Heurreux, PhD</b> DiaSource ImmunoAssays, Louvain-la-Neuve, Belgium
<b>How People Try to Beat Drug Testing and Defend Positive Results</b>	42109	52209	Basic	<b>#Amitava Dasgupta, PhD, DABCC, NRCC</b> University of Texas at Houston Medical School, Houston, TX
<b>Sigma Value—A Performance Indicator and Quality Improvement Tool</b>	42110	52210	Basic	<b>#Vanessa Lo, BSc(First Hons), MSc, MBA, MISM, MPA, FFSc(RCPA)</b> Hong Kong Sanatorium & Hospital, Happy Valley, Hong Kong
<b>Troubleshooting Analytical Interferences</b>	42111	52211	Basic	<b>#Janet Simons, MD, FRCPC</b> McMaster University, Hamilton, ON, Canada
<b>Matrix Effects in LC-MS Assays: Evaluation and Strategies to Overcome Testing Issues</b>	42112	52212	Intermediate	<b>#Yifei Yang, PhD</b> University of Chicago, Chicago, IL
<b>Anti-Mullerian Hormone (AMH): An Emerging Biomarker for the Assessment of Reproductive Function</b>	42113	52213	Intermediate	<b>*Alicia Algeciras-Schimmich, PhD, DABCC</b> Mayo Clinic, Rochester, MN

TITLE	SESSION NUMBER AM	SESSION NUMBER PM	LEVEL	SPEAKERS
The Role of Pharmacogenomics in Therapeutic Drug Monitoring of Immunosuppressants	42114	52214	Intermediate	#Stephen Roper, PhD, MB(ASCP) Baylor College of Medicine, Houston, TX
Perils of Hemoglobin A1c Assays: Hidden Hemoglobinopathies, A Case Based Approach	42115	52215	Basic	#Sydney Strickland, PhD University of Virginia School of Medicine, Charlottesville, VA
Sensitive Estrone and Estradiol Quantitation in the Clinical Lab: Why, When, and How?	42116	52216	Intermediate	*Run Zhang Shi, PhD Stanford Medical Center Clinical Laboratories, Palo Alto, CA
Troubleshooting and Method Development for the Extraction and Quantification of Cannabinoids from Oral Fluid	42117	52217	Intermediate	*Philip Sobolesky, PhD University of California San Diego, San Diego, CA
MAAA, Oh My! Exploring the Algorithms Behind Multianalyte Assays with Algorithmic Analyses, and How to Judge Their Clinical Value	42118	52218	Basic	#James Mays, MD University of Washington, Seattle, WA
Beyond PSA: Novel Biomarkers for Detection of Prostate Cancer	42119	52219	Intermediate	#Bernard Cook, PhD, DABCC, FACB Henry Ford Hospital, Detroit, MI
100% Connectivity in Point-of-Care Testing is Achievable	42120	52220	Intermediate	#Christiane Nooney, MBA/MHA, MT(AMT) Duke University Health System, Durham, NC
Updates in Pediatric Lipid Testing	42121	52221	Intermediate	#Jing Cao, PhD, DABCC Texas Children's Hospital, Houston, TX
The CDC Lipids Standardization Programs—Ensuring the Quality of Clinical Chronic Disease Biomarker Measurements	42122	52222	Intermediate	#Uliana Danilenko, PhD Centers For Disease Control and Prevention, Atlanta, GA
Test Utilization Strategies in the New Healthcare Environment—Controlling Laboratories' Costs and Providing Quality Patient Management	42123	52223	Basic	#Alina Sofronescu, MSc, PhD, NRCC-CC; FACB University of Nebraska Medical Center, Omaha, NE
Leadership Strategies: Cultivating Engagement Through Leadership	42124	52224	Basic	#Cherie Petersen, BA ARUP Laboratories, Salt Lake City, UT
Patient-Centered Clinical Laboratory Activities and Measurement of Outcomes	42125	52225	Intermediate	#Ibrahim Hashim, MSc, PhD, DABCC, FACB University of Texas Southwestern Medical Center, Dallas, TX
Examination of the Peripheral Blood Smear	42126	52226	Basic	#Sherri Flax, MD, FCAP University of Florida, Gainesville, FL
Integrating Preanalytical Quality Indicators for Laboratory Testing Efficiency*	42127	52227	Intermediate	*Aparna Ahuja, MD BD Diagnostics, Franklin Lakes, NJ
Doping with Testosterone: Testing Strategies and Factors Influencing Detection	42129	52229	Basic	#Sami Albeiroti, PhD University of California, Los Angeles, CA

\* Credits for these sessions are pending. Attendees should check the mobile app or [www.aacc.org/2017AM](http://www.aacc.org/2017AM) for updates.

MEET THE EXPERT 10:30AM - 11:30AM

**CRISPR Biology, Technology & Ethics:  
The Future of Genome Engineering**

62101

San Diego Convention Center - 29D

Level: Basic

CE Credit: 1

MODERATOR

**#Christina Lockwood, PhD**

*University of Washington, Seattle, WA*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, molecular biologists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** This session provides an excellent opportunity for a limited number of attendees to meet with Dr. Jennifer Doudna to discuss the novel gene-editing tool, CRISPR. Her research seeks to understand how RNA molecules control the expression of genetic information. Dr. Doudna is a world-renowned researcher with numerous awards. Dr. Doudna has also been recognized outside the scientific community being named one of *Time's* 100 most influential people in 2015 and listed as a runner-up for *Time's* Person of the Year in 2016 alongside other CRISPR researchers.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe CRISPR systems and how they work; 2) explain how CRISPR-Cas9 was harnessed as a gene editing technology; and 3) identify current and future applications of CRISPR technology in health and agriculture.

**SPEAKER**

**CRISPR Biology, Technology and Ethics: The Future of Genome Engineering**

**#Jennifer Doudna, PhD**

*University of California Berkley, Berkley, CA*

**Oncofertility: From Bench to Bedside  
to Babies**

62102

San Diego Convention Center - 22

Level: Basic

CE Credit: 1

MODERATOR

**#Ann Gronowski, PhD, DABCC, FACB**

*Washington University School of Medicine,  
St. Louis, MO*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, immunologists, molecular biologists, laboratory technologists and IVD industry scientists.

**SESSION OVERVIEW:** This session provides an excellent opportunity for a limited number of attendees to meet with Dr. Teresa K. Woodruff, a pioneer in the field of fertility preservation. Dr. Woodruff coined the term "oncofertility" which describes the effort to preserve fertility for young people with cancer and includes basic reproductive biology, clinical science, ethics, law, economics, pediatric surgery and education sciences. Dr. Woodruff will discuss her efforts to provide fertility options for young cancer patients and create a global community of practice that is coordinated and sustainable.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the fertility threat posed by cancer treatment; 2) review fertility preservation options available to young cancer patients; and 3) identify challenges to integrating fertility preservation into the medical management of patients with cancer.

**SPEAKER**

**Oncofertility: From Bench to Bedside to Babies**

**#Teresa Woodruff, PhD**

*Northwestern University, Chicago, IL*

## SYMPOSIA 10:30AM - NOON

**Clinical Endocrine Assays: What Endocrinologists Will Ask You**

32104

San Diego Convention Center - 28ABC

Level: Intermediate

CE Credit: 1.5

## MODERATOR

#David Sacks, MD, MB, ChB, FRCPath  
National Institutes of Health, Bethesda, MD

*Developed in cooperation with Endocrine Society, Clinical Societies Collaboration Committee*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, technologists, IVD industry scientists, students, trainees, and endocrinologists.

**SESSION OVERVIEW:** Endocrinologists frequently contact the clinical lab for guidance on test selection and interpretation. An informal survey of clinicians attending the 2016 Endocrine Society conference revealed their concerns as problems with insulin-like growth factor 1 (IGF-1) analysis, use of tumor markers in thyroid tumors and measurement of cortisol in different samples. This session will address these topics to enable clinical laboratorians to answer these questions.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) explain challenges and progress in the measurement of IGF-1; 2) describe the optimal approach the diagnose and monitor thyroid carcinoma and potential problems with the assays; and 3) discuss the clinical value of measuring cortisol in hair.

## SPEAKERS

**Differentiated Thyroid Cancer Tumor Markers**

#Carole Spencer, PhD, MT, FACB  
University of Southern California, Pasadena, CA

**Insulin-Like Growth Factor I (IGF-1) Assays**

\*Martin Bidlingmaier, MD  
Ludwig-Maximilians University, Munich, Germany

**Measurement of Hair Cortisol: What Can it Tell Us?**

#Stan Van Uum, MD, PhD  
Western University, London, ON, Canada

**Novel Psychoactive Substances in Emergency Toxicology**

32105

San Diego Convention Center - 30C

Level: Intermediate

CE Credit: 1.5

## MODERATOR

#Jennifer Colby, PhD, DABCC, FACB  
Vanderbilt University, Nashville, TN

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, medical technologists, residents, fellows, and toxicologists.

**SESSION OVERVIEW:** This highly interactive session will focus on emergency toxicology and the role of the comprehensive drug screen in the diagnosis and management of acutely intoxicated patients. In particular, the session will explore poisonings that occur with novel psychoactive substances, or so-called designer drugs.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) list specific examples of novel psychoactive substances and explain the challenges associated with detecting them; 2) recognize toxidromes that may be associated with novel psychoactive substances use; and 3) identify clinical and analytical information that will be helpful in diagnosing novel psychoactive substances intoxications.

## SPEAKERS

**NPS History, Mass Spectrometry for Emergency Toxicology**

#Jennifer Colby, PhD, DABCC, FACB  
Vanderbilt University, Nashville, TN

**Introduction to Toxidromes; Cases**

#Kai Li, MD  
University of California, San Francisco, San Francisco, CA

**Interactive Case Discussion**

#Jennifer Colby, PhD, DABCC, FACB  
Vanderbilt University, Nashville, TN

#Kai Li, MD  
University of California, San Francisco, San Francisco, CA

SYMPOSIA 10:30AM - NOON

**Is Bigger Always Better? Pros and Cons of Targeted vs. Comprehensive Genetic Testing**

32106

San Diego Convention Center - 30DE

Level: Basic  
CE Credit: 1.5

**MODERATOR**

**\*Jason Park, MD, PhD**

*University of Texas Southwestern and Children's Medical Center, Dallas, TX*

**INTENDED AUDIENCE:** Clinical chemists, laboratory directors, pathologists, medical technologists, IVD scientists, and geneticists.

**SESSION OVERVIEW:** Genetic testing is advancing precision medicine. This point-counterpoint session will highlight the relative advantages and limitations of targeted (selected gene panel) vs. comprehensive (exome and genome) genetic testing. The speakers will use case studies to emphasize the utility of each approach.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) discuss the basic concepts, benefits, and limitations of next-generation sequencing; 2) explain the need for both targeted and comprehensive genetic testing; and 3) identify appropriate clinical contexts for exome and genome testing.

**SPEAKERS**

**Clinical and Analytical Benefits of Targeted Genetic Testing**

#Linnea Baudhuin, PhD

*Mayo Clinic, Rochester, MN*

**Shortening the Diagnostic Odyssey in Pediatric Testing**

#Carol Saunders, PhD, FACMG

*Children's Mercy Hospital, Kansas City, MO*

**Diagnostics in Global Health: Time to Strengthen This Weakest Link**

32107

San Diego Convention Center - 28DE

Level: Basic  
CE Credit: 1.5

**MODERATOR**

**#Lee Schroeder, MD, PhD**

*University of Michigan, Ann Arbor, MI*

**INTENDED AUDIENCE:** Pathologists, laboratory 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; and 3) list the barriers to diagnostics implementation and how an essential diagnostics list can help overcome those barriers.

**SPEAKERS**

**How Can We Create an Essential Diagnostics List?**

#Lee Schroeder, MD, PhD

*University of Michigan, Ann Arbor, MI*

**How Will an Essential Diagnostics List Help Laboratories and Laboratory Systems?**

#Timothy Amukele, MD, PhD

*Johns Hopkins University, Baltimore, MD*

**Why the World Needs an Essential Diagnostic List**

#Cristina Giachetti, PhD

*Bill & Melinda Gates Foundation, Seattle, WA*

## SYMPOSIA 10:30AM - NOON

Invited Oral Abstracts:

**Improving Patient Outcomes**

32108

San Diego Convention Center - 29ABC

Level: Intermediate

CE Credit: 1.5\*

## MODERATOR

#Edward Randell, PhD

Eastern Health, St. Johns, NB, Canada

\* Credits for this session are pending.  
Attendees should check the mobile app  
or [www.aacc.org/2017AM](http://www.aacc.org/2017AM) for updates.

**INTENDED AUDIENCE:** Postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** AACC is dedicated to advancing 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 in the area of improving patient outcomes 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 improving patient outcomes; 2) compare and contrast the research in improving patient outcomes to the practice of pathology and laboratory medicine; and 3) integrate and translate state of the art knowledge in improving patient outcomes into the roles and responsibilities of the clinical laboratory professional.

## SPEAKERS

**National Survey of Adult and Pediatric Reference Intervals in Clinical Laboratories Across Canada: A Report of the CSCC Working Group on Reference Interval Harmonization**

#Victoria Higgins, PhD Candidate

*The Hospital for Sick Children, Toronto, ON, Canada***Growth Differentiation Factor-15 is a New Biomarker with Independent Prognostic Significance for Survival and Renal Outcomes in Different Cohorts of Patients with Light Chain (AL) Amyloidosis**

#Ioannis Papassotiriou, PhD

*Aghia Sophia Children's Hospital, Athens, Greece***Evaluation of the European Society of Cardiology Recommended Rapid Diagnostic Algorithms in a Challenging Low Risk Cohort**

#Paul Collinson, MB, BChir, MD, FRCPath

*St. George's Hospital, London, United Kingdom***Suppression of the Non-Involved Heavy/Light chains Pair Isotype as a New Biomarker of Poor Prognosis in Multiple Myeloma**

#Jose Luis Garcia de Veas Silva

*Complejo Hospitalario Universitario de Granada, Granada, Spain***Multivariate Models for Combinations of Hemolysis, Icterus and Lipemia Interference**

#Alan Burgess

*EORLA, Greely, ON, Canada***Clinical Chemistry's Hot Topics of 2017**

32109

San Diego Convention Center - 31ABC

Level: Intermediate

CE Credit: 1.5

## MODERATOR

#Nader Rifai, PhD

*Children's Hospital, Boston, MA*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, molecular diagnostics specialists, technologists, and IVD industry scientists.

**SESSION OVERVIEW:** Clinical utility of high-sensitivity troponin and successes and failures of omics in cardiovascular disease are the subjects of numerous highly cited articles published in *Clinical Chemistry* and will be discussed in this session.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe current strategies in using hs-cTn in early diagnosis of myocardial infarction and in risk assessment in apparently healthy individuals; and 2) describe the promises and challenges of omics in cardiovascular medicine.

## SPEAKERS

**Impact of hs-cTn on the Practice of Cardiovascular Medicine**

\*David Morrow, MD, MPH

*Brigham and Women's Hospital, Harvard Medical School, Boston, MA***Successes and Challenges of Omics in Cardiovascular Medicine**

\*Geoffrey Ginsburg, MD, PhD

*Duke University, Durham, NC*

## SYMPOSIA 10:30AM - NOON

President's Invited Session:

### **The Microbiome in Health and Disease**

32128

San Diego Convention Center - 33AB

Level: Basic

CE Credit: 1.5

#### MODERATOR

**#Michael Bennett, PhD, DABCC, FACB**

*University of Pennsylvania and Children's Hospital of Philadelphia, Philadelphia, PA*

**INTENDED AUDIENCE:** All clinical laboratorians, physicians, health care researchers from industry; particularly from pharmaceutical companies.

**SESSION OVERVIEW:** The physiological and pathological significance of the human body's microbiome is one of the most significant areas of current medical interest. However, we contain more bacteria and other microorganisms than we have our own cells. It is becoming increasingly apparent that the qualitative nature of the microbiota we possess and microbial metabolism determine levels of wellness and may ultimately be responsible for many pathological conditions; in particular some complex conditions which classical genetic studies have been unable to explain. This session will explore two significant areas where the microbiome and metabolism are under intense evaluation. This session will explore the gastrointestinal microbiota under normal physiological conditions and relate shifts in patterns of microbiota to non-physiological conditions. Pre-term delivery (premature birth) is an area of great concern in neonatal health provision as there are huge costs in keeping premature babies in neonatal intensive care units; costs which impact laboratories greatly. Elements of both the microbiome and placental metabolism have been implicated as potentially causative mechanisms and these will be discussed in the session.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) understand the physiological significance of the gastrointestinal and placental microbiomes; 2) understand and describe the pathological changes to the microbiomes and how this may relate to disease processes; 3) explain the health care implications of pre-term delivery and how this may relate to the microbiome and placental metabolism; and 4) understand the health-care impact of reducing pre-term delivery.

#### SPEAKERS

##### **The Diet, the Gut Microbiome, and its Metabolome in Health and Disease**

\*Gary Wu, MD

*University of Pennsylvania, Philadelphia, PA*

##### **The Role of the Microbiome in Programming of Adult Disease**

#Rebecca Simmons, MD

*University of Pennsylvania, Philadelphia, PA*

## SHORT COURSE 10:30AM - NOON

### **A Biomarker Strategy to Detect and Predict Cancer Therapy Cardiotoxicity**

72103

San Diego Convention Center - 32AB

Level: Intermediate

CE Credit: 1.5

#### MODERATOR

**\*Alan Wu, PhD, DABCC, FACB**

*University of California/San Francisco General Hospital, San Francisco, CA*

*Developed in cooperation with Biomarkers of Acute Cardiovascular Diseases Division*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, cardiologists, oncologists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** Cancer therapy-induced cardiotoxicity has become an increasingly important clinical problem faced by oncologists and cardiologists. This session will review the pathophysiology and clinical assessment approaches of cancer therapy induced cardiomyopathy, and discuss the utilities of cardiac biomarkers for early diagnosis of acute cardiotoxicity and prediction of late-onset cardiotoxicity and heart failure secondary to cancer therapy.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) explain the pathophysiology of cardiomyopathy induced by cancer therapy agents; 2) discuss the current clinical approaches in the assessment of cardiomyopathy; and 3) identify the clinical utility of cardiac biomarkers in prediction and detection of cancer therapy-induced cardiomyopathy.

#### SPEAKERS

##### **The Pathophysiology and Mechanism of Cardiac Biomarker Release**

\*Alan Wu, PhD, DABCC, FACB

*University of California/San Francisco General Hospital, San Francisco, CA*

##### **Biomarkers of Cancer Therapy Induced Cardiotoxicity**

\*Qing Meng, MD, PhD, DABCC, FCACB

*The University of Texas MD Anderson Cancer Center, Houston, TX*

## MONDAY MID-DAY

## SYMPOSIUM 12:30PM - 2:00PM

Chair's Invited Session:

**Is Artificial Intelligence in Genomics Ready for Prime Time?**

32416

San Diego Convention Center - 28ABC

Level: Basic

CE Credit: 1.5\*

MODERATOR

#Stanley Lo, PhD, DABCC, FACB

Children's Hospital of Wisconsin,  
Milwaukee, WI

\* Credits for this session are pending.  
Attendees should check the mobile app  
or [www.aacc.org/2017AM](http://www.aacc.org/2017AM) for updates.

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, technologists, and IVD industry scientists.

**SESSION OVERVIEW:** Usefully integrating genomic data into patient care is essential for continuing to advance precision medicine. Machine-learning algorithms have made remarkable strides in recent years. This session will discuss the current landscape of artificial intelligence-aided precision therapeutics in oncology using Watson Genomics as an example.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) identify interpretive challenges associated with genomic oncology tests; 2) describe advantages of automated computational analysis of genomic data; and 3) understand how complex genomic features can be inferred from tumor sequencing and influence diagnostic and treatment decisions.

**SPEAKERS**

**Enhanced Clinical Decision Support Enabled by High-Throughput Genomic Profiling in Oncology**

\*Michael Berger, PhD

Memorial Sloan Kettering Cancer Center, New York, NY

**Watson Genomics: Moving Forward on Precision Therapeutics**

\*Evan Leibovitz

IBM, Cambridge, MA

**Enabling Precision Medicine in Oncology Through Advanced Analytics**

#Nirali Patel, MD

University of North Carolina, Chapel Hill, Chapel Hill, NC

## SHORT COURSES 12:30PM - 2:00PM

**The Marriage of Informatics and Laboratory Operations**

72411

San Diego Convention Center - 30AB

Level: Basic

CE Credit: 1.5

MODERATOR

#Anna Merrill, PhD

University of Washington, Seattle, WA

*Developed in cooperation with Biomarkers of Acute Cardiovascular Diseases Division*

**INTENDED AUDIENCE:** Laboratory directors, clinical chemists, pathologists, laboratory supervisors, and medical technologists with an interest in using informatics and operations management to implement quality assessment and quality control strategies for clinical laboratories.

**SESSION OVERVIEW:** High-volume laboratory testing requires robust automated processes to ensure quality results. These processes include active surveillance for system vulnerabilities and implementation of procedures to fill quality gaps. This requires experience in both informatics and laboratory testing to collect, analyze, and interpret data and then implement data-informed quality control strategies. This session will illustrate the power of combining laboratory and informatics expertise to overcome limitations in automated chemistry testing.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) define an operational problem that informatics can help to evaluate and solve; 2) list the components needed to successfully use informatics for quality improvement; 3) illustrate an operational flow diagram; and 4) compare different approaches to assess and ensure compliance for quality improvement/assurance procedures.

**SPEAKERS**

**Operational Oversight for the Execution of Data-Derived Quality Assurance**

#Dina Greene, PhD, DABCC

University of Washington, Seattle, WA

**How to Use Clinical Informatics Tools to Develop and Implement Robust Quality Practices**

\*Daniel Herman, MD, PhD

University of Pennsylvania, Philadelphia, PA

SHORT COURSES 12:30PM - 2:00PM

**The Complement System: Overview and Laboratory Testing**

72412

San Diego Convention Center - 31ABC

Level: Basic  
CE Credit: 1.5

**MODERATOR**

#Maria Alice Willrich, PhD, DABCC, FACB  
Mayo Clinic, Rochester, MN

**INTENDED AUDIENCE:** Laboratory directors, clinicians, pathologists, clinical chemists, supervisors, medical technologists, residents/fellows, IVD industry scientists, and other healthcare professionals.

**SESSION OVERVIEW:** Interest in complement testing has increased in recent years, as its role in infectious, autoimmune and inflammatory diseases is better understood. Further, members of the complement system have been recognized as a potential target for therapeutics. This session will include an overview of the complement system, and cover pre-analytical challenges associated with laboratory evaluation, modern laboratory testing and examples of complement deficiency and dysregulation through interactive case presentations, as well as the opportunity to become a "Complement Whiz."

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the complement system pathways; 2) evaluate and mitigate challenges associated with clinical testing for the complement system; and 3) list the most used biomarkers and their patterns to assess complement dysfunction in several disease states.

**SPEAKERS**

**Understanding Complement in the Clinical Laboratory**

\*Ashley Frazer-Abel, PhD  
University of Colorado School of Medicine, Denver, CO

**Complement Testing Overview and Interpretation for the Clinical Laboratorian**

#Maria Alice Willrich, PhD, DABCC, FACB  
Mayo Clinic, Rochester, MN

**Micronutrient Testing in the Clinical Laboratory, from A to Zinc**

72413

San Diego Convention Center - 32AB

Level: Basic  
CE Credit: 1.5

**MODERATOR**

#Sarah Hackenmueller, PhD, DABCC  
University of Wisconsin, Madison, WI



*Developed in cooperation with Nutrition Division*

**INTENDED AUDIENCE:** Laboratory directors, clinicians, pathologists, clinical chemists, supervisors, medical technologists, residents/fellows, IVD industry scientists, and other healthcare professionals.

**SESSION OVERVIEW:** Micronutrients, including vitamins and some trace metals, are essential but found in low concentrations in the body. Deficiency of micronutrients results in disease processes can be corrected with adequate nutrient supplementation. The clinical impetus for and utility of vitamin and trace element testing will be discussed. Using active learning strategies, participants will explore micronutrient absorption, test utilization, methods of analysis, and limitations associated with these analytes. Session attendees will gain information and strategies to successfully manage requests for micronutrient testing.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) evaluate the clinical utility of micronutrient testing for patients; 2) recognize the value and limitations of vitamin and trace element analysis and results; and 3) recommend appropriate testing to assess micronutrient status and avoid unnecessary test orders.

**SPEAKERS**

**Micronutrients—Physiology and Pathophysiology**

#Vilte Barakauskas, PhD, FCACB  
BC Children's and Women's Health Centre, Vancouver, BC, Canada

**Micronutrients—Vitamins**

#Elizabeth Frank, PhD, DABCC  
University of Utah/ARUP Laboratories, Salt Lake City, UT

**Micronutrients—Nutritional Metals**

#Sarah Hackenmueller, PhD, DABCC  
University of Wisconsin, Madison, WI

## MONDAY MID-DAY

## SHORT COURSES 12:30PM - 2:00PM

**Anti-Mullerian Hormone from the Laboratory Perspective**

72414

San Diego Convention Center - 30DE

Level: Intermediate

CE Credit: 1.5

## MODERATOR

**\*Geraldyn Lambert-Messerlian, PhD, FACB**  
*Women & Infants Hospital and the Alpert Medical School of Brown University, Providence, RI*

*Developed in cooperation with Endocrinology Division*

**INTENDED AUDIENCE:** Laboratory directors, clinical chemists, pathologists, physicians, nurses, and IVD industry representatives especially those interested in assay development.

**SESSION OVERVIEW:** Polycystic ovarian syndrome (PCOS) is a heterogeneous condition and is largely a diagnosis of exclusion. Current diagnostic strategies focus on ovarian follicle counts, demonstration of androgen excess and/or menstrual abnormalities. Laboratory diagnostic tools are needed to define and monitor this common cause of infertility. This session will discuss current PCOS diagnostic strategies as well as promising new biomarkers, the foremost of which is anti-mullerian hormone (AMH). Newly developed automated AMH assays will increase testing availability and may more formally integrate the laboratory into PCOS diagnosis.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe current and potential future approaches to PCOS diagnosis; 2) explain the physiological role of AMH in patients with typical and atypical reproductive function; 3) describe the evolution of AMH measurement methods; and 4) list current and potential future applications of AMH measurement.

## SPEAKERS

**Current and Future Approaches to PCOS Diagnosis**

#Rob Nerenz, PhD, DABCC

*Dartmouth-Hitchcock Medical Center, Lebanon, NH***Medical and Technical Evolution of AMH Test Methods**

#Mark Cervinski, PhD, DABCC

*Dartmouth-Hitchcock Medical Center, Lebanon, NH*

## MONDAY AFTERNOON

## SYMPOSIA 2:30PM - 4:00PM

**Future Directions in Laboratory Utilization**

32219

San Diego Convention Center - 28ABC

Level: Intermediate

CE Credit: 1.5

## MODERATOR

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

**INTENDED AUDIENCE:** Laboratory managers, pathologists, laboratory directors, healthcare system administrators, and health information managers.

**SESSION OVERVIEW:** This session will describe advanced concepts and emerging strategies for laboratory utilization that are intended to improve patient outcomes. Topics will include population health by use of registries, inter-institutional benchmarking, information system interoperability, business process management systems, and techniques for designing utilization studies aimed at interventions to reduce diagnostic errors.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) discuss emerging systems for test utilization that can improve outcome and reduce diagnostic errors; 2) describe how use of patient registries, benchmarking and business process management systems can be used to improve patient outcomes; 3) design utilization studies and know when and when not to conduct a study; and 4) describe an example of how interoperability of laboratory information systems can improve 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*

SYMPOSIA 2:30PM - 4:00PM

**Presenting Expert Testimony  
in the Courtroom**



32220

San Diego Convention Center - 29ABC

Level: Intermediate

CE Credit: 1.5

**MODERATOR**

**#Saeed Jortani, PhD, DABCC, FACB**

*University of Louisville, Louisville, KY*

**INTENDED AUDIENCE:** Pathologists, toxicologists, medical technologists, lab directors, clinical chemists, and any laboratory professional interested in serving as an expert witness.

**SESSION OVERVIEW:** In this session, a courtroom setting will be used to demonstrate the importance of expert witness testimony in resolving toxicology and clinical chemistry related litigation. Attorneys and the expert witness, who worked on two recent trials, will provide arguments and evidence used to litigate these cases. The first case is a murder trial in which the expert witness was called to testify about the role of psychoactive drugs in the manner of death. The second case is a medical malpractice lawsuit where the plaintiff contends improper specimen collection eventually led to severe brain injury.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) prepare as an expert witness in criminal and civil cases; 2) describe the types of questions asked of an expert witness in court proceedings; and 3) formulate appropriate responses to the type of direct and cross examination questions posed in the courtroom.

**SPEAKERS**

**#Eric Haner, Judge**

*Kentucky Administrative Office of the Courts, Louisville, KY*

**#Saeed Jortani, PhD, DABCC, FACB**

*University of Louisville, Louisville, KY*

**#David Mejia, Esq., JD**

*Mejia Law Office, Louisville, KY*

**#Robert Shelton, Esq., JD**

*Shelton Law Group, Louisville, KY*

**The Role of the Laboratorian and  
Clinician in the Diagnosis and  
Management of Tuberculosis**

32221

San Diego Convention Center - 28DE

Level: Intermediate

CE Credit: 1.5\*

**MODERATOR**

**#Steven Cotten, PhD, DABCC**

*The Ohio State University Wexner Medical Center, Columbus, OH*

**INTENDED AUDIENCE:** Pathologists, lab directors, clinical chemists, technologists, IVD industry scientists, and those interested in the diagnosis and management of tuberculosis in the USA and developing countries.

**SESSION OVERVIEW:** Early diagnosis and treatment initiation of tuberculosis (TB) is critical for patient survival, and ultimately ending the TB epidemic. Laboratory tests must be sufficiently sensitive and specific for TB detection, and must be amenable to both developed and resource-limited countries. This session will review the clinical epidemiology of TB, as well as highlight current laboratory tests used for TB diagnosis, and the barriers of implementing rapid testing in resource-limited areas through clinical research trials experience.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) explain the different technologies available for TB diagnosis; 2) recognize treatment options for infected individuals; and 3) contrast testing and management workflows in developed and resource-limited countries.

**SPEAKERS**

**Why and When: Selecting the Best Tuberculosis Diagnostic Test**

**\*Joan-Miquel Balada-Llasat, PharmD, PhD, ABMM**

*The Ohio State University Wexner Medical Center, Columbus, OH*

**Combating Tuberculosis in the US and Developing Countries**

**#Shu-Hua Wang, MD, MPH, PharmD**

*The Ohio State University Wexner Medical Center, Columbus, OH*

\* Credits for this session are pending.  
Attendees should check the mobile app  
or [www.aacc.org/2017AM](http://www.aacc.org/2017AM) for updates.

## MONDAY AFTERNOON

## SYMPOSIA 2:30PM - 4:00PM

Invited Oral Abstracts:

**Emerging Technologies**

32222

San Diego Convention Center - 30C

Level: Intermediate

CE Credit: 1.5

## MODERATOR

#Dana Bailey, PhD, FACB

*Dynacare, London, ON, Canada***INTENDED AUDIENCE:** Postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IVD industry scientists.**SESSION OVERVIEW:** AACC is dedicated to advancing 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 in the area of emerging technologies 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 emerging technologies; 2) compare and contrast the research in emerging technologies to the practice of pathology and laboratory medicine; and 3) integrate and translate state of the art knowledge in emerging technologies into the roles and responsibilities of the clinical laboratory professional.

## SPEAKERS

**Adapting High Resolution Mass Spectrometry for Clinical Toxicology: Comparison and Optimization of SWATH to Data-Dependent Acquisition for Drug Screening**

#Jeffrey Whitman, PhD

*University of California San Francisco, San Francisco, CA***Breaking Free From the ratio: Analytical Performance of an Immunoenrichment-coupled MALDI-TOF MS Detection Method for Monoclonal Immunoglobulin Free Light Chains**

#Luisa Sepiashvili, PhD

*Mayo Clinic, Rochester, MN***Evaluation of Quantitative Microsampling for Immunosuppressant Drug Monitoring**

#Valentinas Grudzys

*ARUP Laboratories, Salt Lake City, UT***Urinary Biomarkers of Idiopathic Membranous Nephropathy Identified by High Resolution Mass Spectrometry Coupled with Liquid Chromatography**

#Lu Pang, MBA

*Peking University First Hospital, Beijing, China***Improving the Measurement of L-Asparaginase: A Standard-of-Care Drug Used in Pediatric Oncology**

#Angela Fung, PhD

*University of Toronto, ON, Canada***Current Perspectives on Alzheimer's Disease**

32226

San Diego Convention Center - 32AB

Level: Intermediate

CE Credit: 1.5

## MODERATOR

\*Leslie Shaw, PhD, DABCC

*Hospital of University of Pennsylvania, Philadelphia, PA***INTENDED AUDIENCE:** Neurologists, pathologists, laboratory directors, clinical chemists, technologists, and IVD Industry Scientists.**SESSION OVERVIEW:** Alzheimer's Disease (AD) is a major cause of dementia in the elderly population. Though no cure has been discovered, significant efforts are being made to find one. To provide a better understanding of AD, this session will discuss National Institute on Aging's strategic approach towards conquering AD, ongoing clinical trials for diagnosis and treatment, and current and potential biomarkers for AD.**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) discuss the strategic approach the National Institute of Aging, Division of Neurosciences is taking to address AD; 2) explain the focus of some of the ongoing clinical trials addressing diagnosis and treatment of AD; and 3) describe biomarkers used in the diagnosis and monitoring of AD.

## SPEAKERS

**NIA's Approach to Alzheimer's Disease**

#Eliezer Masliah, MD

*National Institute of Aging, Bethesda, MD***Current Clinical Trials to Diagnose, Treat and Prevent Alzheimer's Disease**

\*Douglas Galasko, MD

*University of California San Diego, La Jolla, CA***Current and Potential Biomarkers for Diagnosing and Monitoring Alzheimer's Disease**

#Robert Rissman, PhD

*University of California San Diego, La Jolla, CA*

SHORT COURSES 2:30PM - 4:00PM

**Liquid Biopsy as an Emerging Noninvasive Clinical Tool for Cancer Patient Management**

72217

San Diego Convention Center - 30AB

Level: Intermediate

CE Credit: 1.5

**MODERATOR**

**#Qing Meng, MD, PhD, DABCC, FCACB**

*The University of Texas MD Anderson Cancer Center, Houston, TX*

*Developed in cooperation with Molecular Pathology Division, Personalized Medicine Division*

**INTENDED AUDIENCE:** Pathologists, lab directors, clinical chemists, technologists, and IVD industry scientists.

**SESSION OVERVIEW:** This session will discuss pre-analytical, technical and bioinformatic challenges associated with the implementation of liquid biopsy. Significant advances have been made in the analysis of circulating tumor cells (CTC) and circulating tumor DNA (ctDNA) through liquid biopsy. This testing allows for cancer patient stratification and the monitoring of therapeutic response.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) identify the applications and limitations of current technologies for molecular liquid biopsy profiling; 2) list key pre-analytical and analytical variables that may affect the implementation of liquid biopsy in a clinical setting; and 3) describe the clinical utility of these new approaches in guiding personalized cancer treatment.

**SPEAKERS**

**Using New Technology for Circulating Tumor Cell Detection in Cancer Therapy**

**#Qing Meng, MD, PhD, DABCC, FCACB**

*The University of Texas MD Anderson Cancer Center, Houston, TX*

**Liquid Biopsy (ctDNA) Assay Development and Validation: Pre-Analytical and Analytical Considerations**

**#Rajyalakshmi Luthra, PhD**

*The University of Texas MD Anderson Cancer Center, Houston, TX*

**Molecular Profiling: From Tumor to Blood**

**\*Dana Tsui, PhD**

*Memorial Sloan Kettering Cancer Center, New York, NY*

**A Roadmap to Alternative Body Fluid Testing for Disease Diagnosis**

72218

San Diego Convention Center - 30DE

Level: Intermediate

CE Credit: 1.5

**MODERATOR**

**\*Lakshmi Ramanathan, PhD**

*Memorial Sloan-Kettering Cancer Center, New York, NY*

**INTENDED AUDIENCE:** Clinical chemists, pathologists, laboratory directors, lab technologists, lab supervisors, fellows, residents, and scientists.

**SESSION OVERVIEW:** Collection and testing of non-invasive body fluids show promise in population-based screening studies and point-of-care, decentralized testing. Tests in saliva, cerebral spinal and body fluids have the potential to significantly improve diagnostic interpretation and permit biomarker analysis for novel management and treatment decisions. This session will present data on emerging markers in urine (cfDNA, miRNA, exosomes), CSF (CTC), saliva, stool (new genomic tests for colon cancer), and lavage from various organs, providing 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) identify the performance characteristic required for assays in body fluids; and 3) discuss biomarkers that are used in blood and how these are measured in saliva and body fluids after proper validation.

**SPEAKERS**

**Performance Characteristics and Validation in Non-Blood Analysis**

**\*Lakshmi Ramanathan, PhD**

*Memorial Sloan-Kettering Cancer Center, New York, NY*

**New Biomarker Analysis in CSF and Lavage Fluid Collections**

**#Martin Fleisher, PhD, FACB**

*Memorial-Sloan Kettering Cancer Center, New York, NY*

**Current and New Opportunities in Saliva Analysis**

**\*Chamindie Punyadeera, PhD**

*Queensland University of Technology Institute of Health and Biomedical Innovation, Brisbane, QLD, Australia*

SPECIAL SESSION 4:30PM - 6:00PM

**Q&A with Qualcomm Tricorder XPRIZE Finalists**

32227

San Diego Convention Center - Ballroom 20

Level: Basic

**MODERATORS**

**#Shannon Haymond, PhD, DABCC**

*Lurie Children's Hospital of Chicago, Chicago, IL*

**#Stephen Master, MD, PhD, FCAP, FACB**

*Weill Cornell Medical College, New York, NY*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, technologists, and IVD industry scientists.

**SESSION OVERVIEW:** The Qualcomm Tricorder XPRIZE is a \$10 million dollar global competition to stimulate innovation and integration of advanced technologies, enabling reliable health diagnoses anywhere, anytime. The winning team will develop a device weighing no more than five pounds that will diagnose 13 health conditions and capture five real-time health vital signs. Devices are judged for their diagnostic accuracy and user experience. In this session, the audience will hear from the Tricorder competition winner, as well as a finalist and semi-finalist.

The speakers will discuss the technology they have developed, share the inspiration for their devices, the hurdles encountered, and the potential future for their technology. This is an opportunity to learn more about the drivers and status of the digital health revolution and the breakthroughs needed for this model, once relegated to science fiction, to become a reality. This includes the emergence of precision diagnostics that utilize novel sensing technologies with advanced technological integration, requiring new regulatory pathways and healthcare industry acceptance.

Following the presentation, there will be a moderator-led Q&A session featuring questions from the audience. The moderators will include Drs. Shannon Haymond, PhD and Stephen Master, MD, PhD. This is an interactive session highlighting commercial products, and as such will not receive Continuing Medical Education or ACCENT credit.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the principles behind the winning Tricorder device and two of the finalist devices; 2) explain the hurdles encountered by the Tricorder finalists; and 3) identify the potential utility of this new technology.

**SPEAKERS**



**#Jessica Ching**  
*XPRIZE, Culver City, CA*



**#Eugene Chan, PhD**  
*DNA Medicine Institute, Cambridge, MA*



**#Chung-Kang Peng, PhD**  
*Beth Israel Deaconess Medical Center, Boston, MA*



**#Philip Charron**  
*Basil Leaf Technologies, Paoli, PA*



# TUESDAY AUGUST 1

PLENARY & EDUCATION SESSIONS

PLENARY SESSION 13001  
**BEYOND SEQUENCING:  
NEW FRONTIERS IN GENOMICS**



**#JAY SHENDURE, MD, PhD**

University of Washington,  
Seattle, WA

TUESDAY, AUGUST 1  
8:45am - 10:15am  
San Diego Convention Center - Ballroom 20  
Level: Basic CE Credit: 1

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, immunologists, molecular biologists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** Over the past decade, massively parallel or next-generation DNA sequencing has emerged as a broadly enabling 21st century “microscope” for the measurement of diverse biological phenomena. In the clinic, the utility of sequence data is being intensively evaluated in diverse contexts, including reproductive medicine, oncology and infectious disease, and sequencing is increasingly being used in unanticipated ways that reach beyond conventional human genetics. This presentation will focus on efforts to develop new applications for DNA sequencing in clinical medicine, including for non-invasive diagnostics and for decomposing complex cell populations.

**EXPECTED OUTCOMES:** After this session, participants will be able to:  
1) describe the current and anticipated applications of massively parallel DNA sequencing in clinical medicine; 2) define the basis for inferring cell types contributing to cell-free DNA based on epigenetic characteristics of sequenced DNA fragments; and 3) explain the motivations and methods for decomposing complex cell populations into constituent cell types based on single cell transcriptome or epigenome profiling.

**PLEASE REFER TO  
THIS GUIDE WHEN  
MAKING YOUR  
SESSION SELECTIONS**

Each session is identified by a five- or six-digit session number.

**EXAMPLE**

Session 72105 is a:

- A. Short Course
- B. On Monday
- C. In the Morning

**SESSION TYPE**

- A. FIRST DIGIT
  - 1 =Plenary Sessions
  - 3 =Symposia
  - 4 =AM Brown Bag Sessions
  - 5 =PM Brown Bag Sessions
  - 6 =Meet the Expert Session
  - 7 =Short Courses
  - 19 = Sunday AACC University Sessions

**SESSION DAY**

- B. SECOND DIGIT
  - 1 = Sunday
  - 2 = Monday
  - 3 = Tuesday
  - 4 = Wednesday
  - 5 = Thursday

**SESSION TIME**

- C. THIRD DIGIT
  - 1 = am
  - 2 = pm
  - 4 = Mid-day

The last two digits are AACC internal numbers.

## TUESDAY MORNING & AFTERNOON

### BROWN BAG SESSIONS 7:30AM - 8:30AM & 12:30PM - 1:30PM



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 Brown Bag Session) unless otherwise noted San Diego Convention Center - 6A/6B

TITLE	SESSION NUMBER AM	SESSION NUMBER PM	LEVEL	SPEAKERS
Rule-Based Strategies for Taming Wasteful Testing	43101	53201	Intermediate	#Ron Schifman, MD Southern Arizona VA Healthcare System, Tucson, AZ
MALDI-TOF Mass Spectrometry and its Applications in Laboratory Medicine	43102	53202	Intermediate	#Yusheng Zhu, PhD, DABCC, FACB Penn State University Hershey Medical Center, Hershey, PA
Challenges of Quality Control in Modern Analytical Systems	43103	53203	Basic	*Oswald Sonntag, PhD Bio-Rad Laboratories, Munchen, Germany
Laboratory Tests Related to Calcium and Bone Metabolism	43104	53204	Intermediate	*Lu Song, PhD, DABCC University of California, Los Angeles Medical Center, Los Angeles, CA
How to Design and Execute a Clinical Outcomes Study	43105	53205	Intermediate	#Stacy Beal, MD University of Florida College of Medicine, Gainesville, FL
Was That the Right Decision? A Post-Mortem Analysis of a Multi-Year Quality Improvement Process	43106	53206	Intermediate	#Valentinas Grudzys, PhD University of Utah, Salt Lake City, UT
Laboratory Assessment of Pediatric Metabolic Syndrome	43108	53208	Basic	#Victoria Higgins, PhD Candidate The Hospital for Sick Children, Toronto, ON, Canada
Serum Free Light Chains (sFLC): Advantages and Disadvantages of Currently Available Assays	43109	53209	Basic	#Nicole White-Al Habeeb, PhD University of Toronto, Toronto, ON, Canada
It's Not Just 'My Way or The Highway:' Navigating the Standardization of Clinical Laboratory Operations Across Hospital Enterprises	43110	53210	Basic	#Allison Chambliss, PhD, DABCC University of Southern California, Los Angeles, CA
Harmonizing Reference Intervals— A Provincial Example	43111	53211	Intermediate	#Janet Simons, MD, FRCPC McMaster University, Hamilton, ON, Canada
Abnormal Routine Laboratory Results and Interpretation in Cancer Patients	43112	53212	Intermediate	#Qing Meng, MD, PhD, DABCC, FCACB The University of Texas MD Anderson Cancer Center, Houston, TX
The CDC Hormone Standardization (HoSt) Program: Improving Clinical Measurements of Testosterone and Estradiol	43113	53213	Intermediate	#Krista Poynter, BS Centers for Disease Control & Prevention, Atlanta, GA
Optimizing Accuracy and Precision for POCT in Specific Clinical Settings	43114	53214	Intermediate	#Anthony Okorodudu, PhD, MBA, DABCC University of Texas Medical Branch, Galveston, TX
Inferior Petrosal Sinus Sampling (IPSS): The Challenges in Performing This Diagnostic Procedure for Patients with Cushing's Disease	43115	53215	Intermediate	#Siaw Li Chan, PhD University of Chicago, Chicago, IL

TITLE	SESSION NUMBER AM	SESSION NUMBER PM	LEVEL	SPEAKERS
Recent Updates on Celiac Disease Testing and Utilization of Laboratory Testing Algorithms	43116	53216	Intermediate	<b>#Mahesheema Ali, PhD</b> Texas Children's Hospital, Houston, TX
The Journey in Obtaining POCT Education Documentation within a Health System	43117	53217	Basic	<b>#Deborah Bozek, MLS (ASCP)cm</b> Baystate Medical Center, Springfield, MA
Data-Driven Optimization of Result Autoverification in an Automated Chemistry Laboratory	43118	53218	Basic	<b>#Anna Merrill, PhD</b> University of Washington, Seattle, WA
Biomarkers to Detect Alcohol Exposure	43119	53219	Intermediate	<b>#Kamisha Johnson-Davis, PhD, DABCC, FACB</b> University of Utah/ARUP Laboratories, Salt Lake City, UT
Decreasing Barriers to Testing: HIV Point-of-Care Testing	43120	53220	Basic	<b>#Dorothy Truong, PhD</b> University of Toronto, Toronto, ON, Canada
Minimum Retesting Intervals (MRI): Importance, Determination, Advantages, Challenges of Enforcement	43121	53221	Intermediate	<b>#Asmita Hazra, MBBS, MD</b> Dr. Sampurnanand Medical College, Jodhpur, Rajasthan, India
Small Blood Samples, Challenges for the Lab	43122	53222	Basic	<b>#Khushbu Patel, PhD, DABCC</b> UT Southwestern, Dallas, TX
Screening for Cancer: Recommendations and Controversies	43123	53223	Intermediate	<b>#Shahram Shahangian, PhD, MS, DABCC, FACB</b> US Centers for Disease Control and Prevention (CDC), Atlanta, GA
Strategies for Streamlining Analytical and Post-Analytical Processes in Clinical Urine Multi-Target Drug Testing Using LC-MS/MS Technology	43124	53224	Intermediate	<b>#Danijela Konforte, PhD, FCACB</b> Lifelabs, Toronto, ON, Canada
A Case-Based Discussion: Therapeutic Drug Monitoring for Reduction of Adverse Drug Reactions	43125	53225	Basic	<b>#Claire Knezevic, PhD</b> Johns Hopkins Medical Institutes, Baltimore, MD
Use of Frequency Distribution Curves to Determine Drug Cutoffs*	43126	53226	Intermediate	<b>*Amadeo Pesce, PhD, ABCC, FACB</b> Precision Diagnostics LLC, San Diego, CA
Serum vs. Plasma: Which Specimen Should You Use?	43127	53227	Basic	<b>*Jeffrey Chance, PhD</b> BD Life Sciences - Preanalytical Systems, Franklin Lakes, NJ
Controversies and Solutions to Establishing and Maintaining a Compliant Body Fluid Testing Program	43128	53228	Basic	<b>*Darci Block, PhD</b> Mayo Clinic, Rochester, MN
Negotiating a Job Contract That Meets Everyone's Needs <i>Developed in cooperation with Society for Young Clinical Laboratorians, Management Sciences and Patient Safety Division</i>	43129	53229	Basic	<b>#Joe El-Khoury, PhD, DABCC, FACB</b> Yale University, New Haven, CT
A Case Based Approach to Understanding the Role of the Laboratory in Transgender Care	43130	53230	Basic	<b>#Dina Greene, PhD, DABCC</b> University of Washington, Seattle, WA
The Evolution of Next Generation Clinical Mass Spectrometry	43131	53231	Basic	<b>*Steven Wong, PhD, DABCC (TC), FACB</b> Wake Forest University School of Medicine, Winston-Salem, NC
The Impact of the National Glycohemoglobin Standardization Program (NGSP) on HbA1c Measurement in the Clinical Laboratory	43132	53232	Intermediate	<b>*Randie Little, PhD</b> University of Missouri at Columbia, Columbia, MO
Leveraging CLSI Guidelines for Validation of Mass Spectrometry Assays	43133	53233	Basic	<b>#Hema Ketha, PhD</b> University of Michigan, Ann Arbor, MI

\* Credits for these sessions are pending. Attendees should check the mobile app or [www.aacc.org/2017AM](http://www.aacc.org/2017AM) for updates.

MEET THE EXPERT 10:30AM - 11:30AM

**Beyond Sequencing: New Frontiers in Genomics**

63101

San Diego Convention Center - 33A

Level: Basic  
CE Credit: 1

MODERATOR

**#Ann Gronowski, PhD, DABCC, FACB**  
*Washington University School of Medicine,  
St. Louis, MO*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, immunologists, molecular biologists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** This session provides an excellent opportunity for a limited number of attendees to meet with Dr. Jay Shendure, a renowned human geneticist. Dr. Shendure's research group pioneered exome sequencing and its application to Mendelian disorders, a strategy that has been applied to identify hundreds of disease-causing genes. Dr. Shendure will discuss efforts to develop new applications for DNA sequencing in clinical medicine, including for non-invasive diagnostics and for decomposing complex cell populations.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the current and anticipated applications of massively parallel DNA sequencing in clinical medicine; 2) define the basis for inferring cell types contributing to cell-free DNA based on epigenetic characteristics of sequenced DNA fragments; and 3) explain the motivations and methods for decomposing complex cell populations into constituent cell types based on single cell transcriptome or epigenome profiling.

**SPEAKER**

**#Jay Shendure, MD, PhD**  
*University of Washington, Seattle, WA*

**Q&A with Qualcomm Tricorder XPRIZE Finalists**

63102

San Diego Convention Center - 29D

Level: Basic

MODERATORS

**#Shannon Haymond, PhD, DABCC**  
*Lurie Children's Hospital of Chicago, IL*

**#Stephen Master, MD, PhD, FCAP, FACB**  
*Weill Cornell Medical College,  
New York, NY*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, technologists, and IVD industry scientists.

**SESSION OVERVIEW:** The Qualcomm Tricorder XPRIZE is a \$10 million dollar global competition to stimulate innovation and integration of advanced technologies, enabling reliable health diagnoses anywhere, anytime. The winning team will develop a device weighing no more than five pounds that will diagnose 13 health conditions and capture five real-time health vital signs. Devices are judged for their diagnostic accuracy and user experience. In this session, the audience will hear from the Tricorder competition winner, as well as a finalist and semi-finalist.

The speakers will discuss the technology they have developed, share the inspiration for their devices, the hurdles encountered, and the potential future for their technology. This is an opportunity to learn more about the drivers and status of the digital health revolution and the breakthroughs needed for this model, once relegated to science fiction, to become a reality. This includes the emergence of precision diagnostics that utilize novel sensing technologies with advanced technological integration, requiring new regulatory pathways and healthcare industry acceptance.

Following the presentation, there will be a moderator-led Q&A session featuring questions from the audience. The moderators will include Drs. Shannon Haymond, PhD and Stephen Master, MD, PhD. This is an interactive session highlighting commercial products, and as such will not receive Continuing Medical Education or ACCENT credit.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the principles behind the winning Tricorder device and two of the finalist devices; 2) explain the hurdles encountered by the Tricorder finalists; and 3) identify the potential utility of this new technology.

**SPEAKERS**

**#Jessica Ching**  
*XPRIZE, Culver City, CA*

**#Eugene Chan, PhD**  
*DNA Medicine Institute, Cambridge, MA*

**#Chung-Kang Peng, PhD**  
*Beth Israel Deaconess Medical Center, Boston, MA*

**#Philip Charron**  
*Basil Leaf Technologies, Paoli, PA*

## SYMPOSIA 10:30AM - NOON

**Integrating TDM in the Health Care Environment: Team-Based Care with Pharmacists**

33103

San Diego Convention Center - 30DE

Level: Intermediate  
CE Credit: 1.5

## MODERATOR

#Amitava Dasgupta, PhD, DABCC, NRCC  
University of Texas at Houston Medical School,  
Houston, TX**INTENDED AUDIENCE:** Laboratory medicine physicians, laboratory directors, pathologists, toxicologists, clinical chemists, supervisors, medical technologists, residents/fellows, IVD industry scientists, and other healthcare professionals who participate in patient care.**SESSION OVERVIEW:** Pharmacists play an important role in bridging the gap between clinicians and the clinical laboratory for proper utilization of TDM results. The responsibility of laboratory scientists is to provide accurate and timely results to the providers. This session will discuss how pharmacists and laboratorians can collaborate for optimal patient care.**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) eliminate pre-analytical and analytical errors in therapeutic drug monitoring; 2) detail the process of integrating pharmacists with laboratory scientists for improving patient safety and optimizing care; and 3) implement measures for improved communications between the pharmacy and clinical laboratory in order to enhance TDM services.

## SPEAKERS

**Implementation of Team-Based Delivery of TDM Services in a Modern Healthcare Environment**\*William Clarke, PhD, MBA, DABCC  
Johns Hopkins Medical Institutions, Baltimore, MD**TDM For Optimal Patient Care: A Pharmacist's Perspective**#Annette Rowden, PharmD, BCPS  
Johns Hopkins Hospital, Baltimore, MD

Invited Oral Abstracts:

**Precision Medicine and Therapeutics**

33104

San Diego Convention Center - 29ABC

Level: Intermediate  
CE Credit: 1.5

## MODERATOR

#Mathew Estey, PhD  
DynaLIFE Dx, Edmonton, AB, Canada**INTENDED AUDIENCE:** Postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IVD industry scientists.**SESSION OVERVIEW:** AACC is dedicated to advancing 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 in the area of precision medicine and therapeutics 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 precision medicine and therapeutics; 2) compare and contrast the research in precision medicine and therapeutics to the practice of pathology and laboratory medicine; and 3) integrate and translate state of the art knowledge in precision medicine and therapeutics into the roles and responsibilities of the clinical laboratory professional.

## SPEAKERS

**Sensitive and Specific Detection of Variants in Circulating Tumor DNA by Anchored Multiplex PCR and Next-Generation Sequencing**\*Brady Culver, PhD  
Archer Dx, Boulder, CO**Comparison of the Traditional and Reverse Syphilis Screening Algorithms in Medical Health Checkups**#Eunhee Nah, MD  
Korea Association of Health Promotion, Seoul, Korea**Increased Disialotransferrin Evident with Chronic Alcohol Consumption**#Dorothy Truong, PhD  
University of Toronto, Toronto, ON, Canada**Measurement of Intact Fibroblast Growth Factor 23 in Patients with Heart Failure with Reduced Ejection Fraction**#Damien Gruson, PhD  
Cliniques Universitaires St-Luc, Bruxelles, Belgium**miRNAs as Potential Biomarkers for New-Onset Fibrillation: In Silico and in Vivo Analysis**#Vivian Silbiger, MAS  
Universidade Federal do Rio Grande do Norte, Parnamirim, Brazil

SYMPOSIA 10:30AM - NOON

**Continuous Improvement of Your POCT Program: Patient-Centered Care, Reducing Overall Healthcare Costs, and Helping Meet the Goals of Healthcare Reform**



33105  
San Diego Convention Center - 28ABC

Level: Intermediate  
CE Credit: 1.5

MODERATOR

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

*Developed in cooperation with SYCL, Critical and Point-of-Care Testing Division  
Supported by Radiometer America*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, physicians, nurses, clinical chemists, point-of-care coordinators, and technologists.

**SESSION OVERVIEW:** In the current climate of healthcare reform, there is a requirement to provide patient-centered care, while reducing overall costs. Point-of-Care Testing (POCT) is increasingly playing an important role as it has the potential to improve operational efficiency and patient care, when implemented appropriately. This session will focus on current and future changes in POCT and how to help meet the goals of healthcare reform in accountable care organizations.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe how POCT is changing in light of the current healthcare reform; 2) discuss two ways by which they can demonstrate the value of their POCT program; 3) summarize changes in POCT technology and possible impact on current POCT structure; and 4) explain the advantages and challenges of multidisciplinary collaborations, and how to navigate such collaborations.

**SPEAKERS**

**Multidisciplinary Collaborations to Evaluate the Use of POCT**

**#Rob Nerenz, PhD, DABCC**  
*Dartmouth-Hitchcock Medical Center, Lebanon, NH*

**Demonstrating the Value of Your POCT Program**

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

**Trends in POCT Technology and Assessing Their Value**

**#Nicole Tolan, PhD, DABCC**  
*Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA*

**CDC/APHL HIV Diagnostic Testing Algorithm: Incorporating New HIV Testing Technologies and Managing Common HIV Testing Dilemmas**

33106  
San Diego Convention Center - 28DE

Level: Intermediate  
CE Credit: 1.5

MODERATOR

**#Philip Peters, MD**  
*Centers for Disease Control and Prevention, Atlanta, GA*

*Supported by Radiometer America*

**INTENDED AUDIENCE:** Clinical laboratory scientists, physicians, administrators, technologists, and laboratory directors who specialize in healthcare diagnostics and are either implementing or are interested in advances in HIV testing.

**SESSION OVERVIEW:** This session will present an overview of the CDC/APHL HIV Diagnostic Testing Algorithm with the goal to educate persons involved in HIV-testing programs on 1) the most current HIV-testing technologies; 2) incorporating HIV tests into laboratory practice; and 3) best practices on managing HIV-testing dilemmas.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the CDC/APHL HIV Diagnostic Testing Algorithm; 2) identify the impact of three new HIV diagnostic assays on HIV testing recommendations; and 3) apply learned information to answer common questions from clinicians.

**SPEAKERS**

**Managing Common HIV Testing Dilemmas**

**#Philip Peters, MD**  
*Centers for Disease Control and Prevention, Atlanta, GA*

**New HIV Testing Technologies and Their Impact on the Laboratory**

**#Silvina Masciotra, MBS**  
*Centers for Disease Control and Prevention, Atlanta, GA*

**Overview of the CDC/APHL HIV Diagnostic Testing Algorithm**

**#Laura Wesolowski, PhD**  
*Centers for Disease Control and Prevention, Atlanta, GA*

## SYMPOSIA 10:30AM - NOON

**Changing the Rules of the Game:  
Multi-Disciplinary Stakeholder  
Perspectives on the New 2017  
Federal Regulations for Research**

33107

San Diego Convention Center - 33B

Level: Basic

CE Credit: 1.5

## MODERATOR

\*Erin Paquette, MD, JD

*Northwestern University, Chicago, IL*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, laboratory administrators, policy makers, and scientists with an interest in learning how changes to the Common Rule may impact use of biospecimens for research.

**SESSION OVERVIEW:** This session will focus on the changes to the Common Rule in the Federal Regulations Governing Research. Through lecture and examples, the presenters will discuss regulatory, ethical, and practical changes to the Common Rule. Specifically, the session will describe the ethical and regulatory context for the changes that were proposed, review the final changes adopted in January 2017, and will explore the impact on research for investigators, laboratory medicine, and IVD industry.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) discuss the proposed changes to the Common Rule and the changes that became part of the final rule; 2) describe the ethical and regulatory frameworks motivating the changes to the Common Rule; and 3) evaluate the impact of the Common Rule changes on laboratory medicine, investigators, and industry.

## SPEAKERS

**The Common Rule After a Quarter Century: Ethical and Regulatory Changes in an Age of Population Medicine**

\*Erin Paquette, MD, JD

*Northwestern University, Chicago, IL*

**Proposed Changes to the Common Rule: Industry Perspective**

\*Danelle Miller, JD

*Roche Diagnostics, Indianapolis, IN*

**Regulatory Threats to Research and Diagnostic Laboratories**

#Mark Sobel, PhD, MD

*American Society for Investigative Pathology, Bethesda, MD*

**Clinical Biochemistry Hot Topics of 2017**

33122

San Diego Convention Center - 32AB

Level: Intermediate

CE Credit: 1.5

## MODERATOR

\*Pete Kavsak, PhD

*Juravinski Hospital and Cancer Centre,  
Hamilton, ON, Canada*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, molecular diagnostics specialists, technologists, and IVD industry scientists

**SESSION OVERVIEW:** This session highlights two speakers that have achieved significant interest from the readership of *Clinical Biochemistry*. One presentation will discuss the release mechanisms, utility, and quality of cardiac biomarkers in *Clinical Biochemistry* and other top-tiered clinical journals. The second presentation will discuss the use of EQA data to establish quality and novel approaches to manage laboratory testing.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) discuss the strengths and weaknesses when interpreting cardiac troponin and other cardiac biomarkers, especially with respect to renal disease and release mechanics/clearance; and 2) explain how quality can be managed by the laboratory professionals to provide accurate results.

## SPEAKERS

**High-Sensitive Cardiac Troponin, NT-proBNP, hFABP and Copeptin Levels in Relation to Glomerular Filtration Rates and a Medical Record of Cardiovascular Disease**

#Ola Hammarsten, MD

*Sahlgrenska Academy at the University of Gothenburg, Gothenburg, Sweden*

**A Simple Matrix of Analytical Performance to Identify Assays That Risk Patients Using External Quality Assurance Program Data**

#Tony Badrick, PhD, FACB

*RCPAQAP, Sydney, Australia*

SYMPOSIA 10:30AM - NOON

**New Harmonized Reference Ranges for Circulating Testosterone Levels in Men**

33123

San Diego Convention Center - 31ABC

Level: Intermediate

CE Credit: 1.5

MODERATOR

#Hubert Vesper, PhD

Centers for Disease Control and Prevention, Atlanta, GA

*Developed in cooperation with Partnership for the Accurate Testing of Hormones (PATH)*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, and IVD industry scientists.

**SESSION OVERVIEW:** Reference intervals for testosterone are essential for diagnosis of hypogonadism in men. New reference intervals were determined using n=9054 men from four major cohort studies. Access to these revised reference intervals should improve the diagnosis of hypogonadism by having tests and reference intervals standardized to the same accuracy.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the benefits of accurate reference intervals in patient care; 2) discuss the revised reference intervals for testosterone in men; and 3) explain how reference intervals can be derived from multiple study cohorts.

SPEAKERS

**Standardized Mass Spectrometry-Based Method for Establishing Reference Ranges for Testosterone in Men**

#Hubert Vesper, PhD

Centers for Disease Control and Prevention, Atlanta, GA

**Statistical Design and Derivation of Testosterone Reference Ranges Using Multiple Study Cohorts**

#Thomas Trivison, PhD

Brigham and Women's Hospital, Harvard Medical School, Boston, MA

**Reference Ranges for Testosterone in Men and Their Clinical Impact**

\*Shalender Bhasin, MD

Harvard Medical School, Boston, MA

SHORT COURSE 10:30AM - NOON

**Multi-Marker Testing Strategies in Women's Health**

73102

San Diego Convention Center - 6C/6D

Level: Basic

CE Credit: 1.5

MODERATOR

\*David Grenache, PhD, MT(ASCP), DABCC, FACB

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

**INTENDED AUDIENCE:** Laboratory directors, pathologists, clinicians, clinical chemists, supervisors, medical technologists, residents/fellows, IVD industry scientists, and other healthcare professionals who participate in patient care.

**SESSION OVERVIEW:** Multi-marker testing strategies have been used for decades to improve the diagnostic performance of laboratory tests. These strategies are extremely relevant in women's health, particularly in the background of pregnancy and cancer. Therefore, this session will focus on clinically established and developing multi-marker testing strategies that are of importance in women's health, including those for fetal aneuploidy, preeclampsia, preterm labor, and ovarian cancer.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the established multi-marker prenatal screening program for aneuploidy; 2) compare developing strategies for ectopic pregnancy, preeclampsia and preterm labor; and 3) list the strengths and weaknesses of multi-marker test strategies for ovarian cancer risk assessment.

SPEAKERS

**Multi-Marker Strategies to Predict Maternal Complications of Pregnancy**

\*Geraldyn Lambert-Messerlian, PhD, FACB

Women & Infants Hospital and the Alpert Medical School of Brown University, Providence, RI

**Multi-Marker Strategies for Ovarian Cancer Risk Assessment**

\*David Grenache, PhD, MT(ASCP), DABCC, FACB

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

## SYMPOSIA 2:30PM - 4:00PM

Invited Oral Abstracts:

**Hot Topics in Lab Medicine**

33218

San Diego Convention Center - 28ABC

Level: Intermediate

CE Credit: 1.5\*

## MODERATOR

#Anna Fuezery, PhD, DABCC, FACB

Royal Alexandra Hospital Core Laboratory,  
Edmonton, AB, Canada

\* Credits for this session are pending.

Attendees should check the mobile app  
or [www.aacc.org/2017AM](http://www.aacc.org/2017AM) for updates.**INTENDED AUDIENCE:** Postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IVD industry scientists.**SESSION OVERVIEW:** AACC is dedicated to advancing 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 focusing on hot topics in laboratory medicine 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; 2) compare and contrast cutting edge laboratory medicine research to the practice of pathology and laboratory medicine; and 3) integrate and translate state of the art knowledge in lab medicine into the roles and responsibilities of the clinical laboratory professional.

## SPEAKERS

**Sex-Specific 99th Percentiles Derived from the AACC Universal Sample Bank for the Roche Gen 5 cTnT assay**

\*Fred Apple, PhD, DABCC

Hennepin County Medical Center, Minneapolis, MN

**Frequency of Instrument, Environment and Laboratory Technologist Contamination During Routine Diagnostic Testing of Infectious Specimens**

#Melanie Yarbrough, PhD

Washington University School of Medicine, St. Louis, MO

**Development of Multiplexed Mass Spectrometry-Based Assays for Urine Biomarkers of Aggressive Prostate Cancer**

#Claire Knezevic, PhD

Johns Hopkins Medical Institutes, Baltimore, MD

**Evaluation of the Utility of CMS Claim Data for Early Detection of Increasing Influenza Activity**

#Rex Astles

Centers For Disease Control and Prevention, Atlanta, GA

**Genetic Variants in the Vascular Endothelial Growth Factor Pathway as Potential Markers of Ovarian Cancer Risk, Therapeutic Response, and Clinical Outcome**

#Liyun Cao

MD Anderson Cancer Center, Houston, TX

**The Role and Utility of Glycated Proteins: Beyond Hemoglobin A1c**

33221

San Diego Convention Center - 30DE

Level: Intermediate

CE Credit: 1.5

## MODERATOR

#Mitchell Scott, PhD, DABCC

Washington University School of Medicine,  
Saint Louis, MO

Developed in cooperation with American Diabetes Association (ADA), Clinical Society Collaboration Committee

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, technologists, IVD industry scientists, students, trainees, and endocrinologists.**SESSION OVERVIEW:** HbA1c does not always reflect average glucose. Assays have been developed to measure other glycated proteins including fructosamine, glycated albumin and advanced glycation end-products. These markers are not altered by erythrocyte turnover but many laboratorians have limited knowledge of these markers. This session will review the role of these biomarkers and evaluate whether they provide useful information beyond HbA1c.**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) summarize challenges and progress in the measurement of chronic glycemia by fructosamine, glycated albumin and advanced glycation end products; 2) describe the evidence for the clinical role of these markers in diabetes; and 3) discuss studies that are necessary to enhance the value of these markers in the management of diabetes.

## SPEAKERS

**Technical Challenges and Progress in the Measurement of Chronic Glycemia**

#David Sacks, MD, MB, ChB, FRCPath

NIH, Bethesda, MD

**Is There a Clinical Need for Fructosamine or Glycated Albumin?**

\*Cyrus Desouza, MBBS

University of Nebraska Medical Center, Omaha, NE

**Advanced Glycation End-Products: Do They Have a Role in Diabetes?**

\*Paul Thornalley, PhD

University of Warwick, Coventry, United Kingdom

SYMPOSIA 2:30PM - 5:00PM

**MALDI-TOF Mass Spectrometry: Not Just for Clinical Microbiology Labs Anymore**

33212

San Diego Convention Center - 33A

Level: Intermediate

CE Credit: 2.5

MODERATOR

**#Mari DeMarco, PhD, DABCC, FACB**

*University of British Columbia and St Paul's Hospital, Vancouver, BC, Canada*

*Developed in cooperation with Proteomics & Metabolomics Division*

**INTENDED AUDIENCE:** Students, residents, fellows, clinical laboratory technicians, IVD industry scientists, pathologists, laboratory directors, and technologists.

**SESSION OVERVIEW:** This session will provide an introduction to MALDI-TOF mass spectrometry applications in clinical chemistry laboratories. This session uses an interactive approach to discuss the application of MALDI-TOF MS, combined with emerging technologies, for qualitative and quantitative investigation of biomarkers (peptides, proteins, DNA) and drugs of abuse.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the principles of MALDI-TOF MS; 2) discuss applications of MALDI-TOF MS for qualitative and quantitative analyses; and 3) explain the strengths and weaknesses of MALDI-TOF MS.

**SPEAKERS**

**Leveraging the Simplicity of MALDI-TOF MS: Rapid Characterization of Endogenous Peptide and Protein Isoforms**

**#Mari DeMarco, PhD, DABCC, FACB**

*University of British Columbia and St Paul's Hospital, Vancouver, BC, Canada*

**Leveraging the Power of MALDI-TOF MS: Quantitation of Protein Biomarkers Using Nanoparticles**

**#Tony Hu, PhD**

*Arizona State University, Tempe, AZ*

**Leveraging the Flexibility of MALDI-TOF MS: Application to Molecular Genetics and Toxicology**

**#Yusheng Zhu, PhD**

*Pennsylvania State University, Hershey Medical Center, Hershey PA*

**Diseases of the Gastrointestinal System: Immune-Mediated and Infectious**

33213

San Diego Convention Center - 22

Level: Intermediate

CE Credit: 2.5

MODERATOR

**\*Melissa Snyder, PhD, DABCC**

*Mayo Clinic, Rochester, MN*

*Developed in cooperation with Clinical & Diagnostic Immunology Division*

**INTENDED AUDIENCE:** Clinical laboratory directors, pathologists, clinical technologists, IVD manufacturers, pharmaceutical scientists, and anyone interested in immunologically-related gastrointestinal diseases.

**SESSION OVERVIEW:** Many gastrointestinal disorders have an underlying immunological pathology, including autoimmune, infectious, and allergic diseases. The clinical symptoms associated with these various diseases may overlap, making for a challenging diagnosis. This session will show how laboratory testing plays a key role in helping to establish the correct diagnosis, allowing for an appropriate treatment strategy.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) identify testing that is useful for assessing the degree of inflammation within the gastrointestinal system and as an aid in the diagnosis of immune-mediated diseases such as inflammatory bowel disease; 2) describe the epidemiology of infectious gastroenteritis and identify the current standard and newer testing available within the clinical laboratory; 3) list the gastrointestinal manifestations of food allergy, distinguishing between likely and unlikely food allergens; and 4) discuss the limitations of current testing methods.

**SPEAKERS**

**Autoimmune Gastrointestinal Diseases**

**\*Melissa Snyder, PhD, DABCC**

*Mayo Clinic, Rochester, MN*

**Infections of the Gastrointestinal System**

**\*Amy Leber, PhD, D(ABMM)**

*Nationwide Children's Hospital, Columbus, OH*

**Diagnostic Challenges for Food Allergies**

**\*Bruce Lanser, MD**

*National Jewish Health, Denver, CO*

## SYMPOSIA 2:30PM - 5:00PM

**Cannabis Impaired Driving:  
Biological Markers and  
Behavioral Indicators of Recent  
Cannabis Intake**



33215

San Diego Convention Center - 30ABC

Level: Basic

CE Credit: 2.5\*

## MODERATOR

\*Marilyn Huestis, PhD

NMS Labs, Inc., Willow Grove, PA

\* Credits for this session are pending.  
Attendees should check the mobile app  
or [www.aacc.org/2017AM](http://www.aacc.org/2017AM) for updates.

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, technologists, toxicologists, and industry scientists.

**SESSION OVERVIEW:** The short-term adverse consequence of cannabis legalization is cannabis-impaired driving. New blood cannabinoid markers and roadside oral fluid screening devices, and new Drug Evaluation and Classification Program data from cannabis-impaired drivers and following controlled cannabis administration are shared. Cannabis-impaired driving is an important public health and safety issue that affects all of us. Laboratorians may want to incorporate new analytical methods for the measurement of cannabinoid markers in blood and oral fluid. Clinical scientists need to be fully aware of the advantages and disadvantages of cannabinoid concentration laws and documentation of impairment by law enforcement to deter cannabis-impaired driving and to be upheld in court. This session will debate the most effective measures to document cannabis-impaired driving.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) list new recent cannabis intake blood markers; 2) compare onsite oral fluid screening device performance; 3) discuss the best cannabis indicators of the Drug Evaluation and Classification Program; and 4) describe performance on divided attention psychophysical tasks and eye examinations following cannabis.

## SPEAKERS

**Participant Performance on Divided Attention Psychophysical Tasks and Eye Examinations from DECP Following Controlled Administration of Placebo, Smoked, Vaporized, and Oral Cannabis to Frequent and Occasional Smokers**

\*Madeleine Swortwood, PhD

Sam Houston State University, Huntsville, TX

**Cannabinoid Pharmacology, Blood Cannabinoids and Recent Cannabis Markers in Occasional and Chronic Frequent Cannabis Smokers After Controlled Smoked, Inhaled and Oral Cannabis**

\*Marilyn Huestis, PhD

NMS Labs, Inc., Willow Grove, PA

**Cannabis and Driving, National Advanced Driving Simulator, Drug Recognition Expert (DRE) Examination Characteristics of Cannabis Impairment**

#Rebecca Hartman, PhD

Monroe County Medical Examiners' Office, Rochester, NY

**Cannabis Per Se Levels and Oral Fluid Testing Performance of the Alere™ DDS\*2 Mobile Test System in Identifying Cannabis Intake in Oral Fluid Samples Collected from Human Subjects at a Music Festival**

\*Barry Logan, PhD, D-ABFT

Fredric Rieders Family Renaissance Foundation, Willow Grove, PA

SYMPOSIA 2:30PM - 5:00PM

**Determining What Works: Clinical Effectiveness and Value Based Laboratory Testing**

33216

San Diego Convention Center - 28DE

Level: Intermediate

CE Credit: 2.5

**MODERATOR**

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

**INTENDED AUDIENCE:** Clinical chemists, pathologists, laboratory directors, technologists, IVD industry scientists, and regulators.

**SESSION OVERVIEW:** This session will discuss the role of evidence-based laboratory medicine and how it can significantly add value to the patient-focused care pathway by addressing both analytical and clinical performance as they relate to cost and clinical effectiveness in terms of direct patient benefits and safety.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) list key principles in developing evidence-based biomarker evaluations; 2) explain what clinical performance criteria should be used to assess biomarker testing effectiveness; 3) describe how to assess the impact of biomarker assay performance on patient outcomes; and 4) discuss the value of evidence-based laboratory medicine in the patient care pathway.

**SPEAKERS**

**Transforming Laboratory Medicine from Volume to Value: Shifting the Focus to Outcomes and a Value Proposition**

\*Brian Jackson, MD, MS, FCAP

*ARUP Laboratories and University of Utah, Salt Lake City, UT*

**Solutions to Achieve More Effective and Efficient Lab Testing That Avoids Harms and Adds Value for Clinical and Patient Needs**

#Alex Chin, PhD, DABCC, FACB, FCACB

*Calgary Laboratory Services/University of Calgary, Calgary, AB, Canada*

**Framework for Evaluating Clinical Effectiveness**

#Andrea Horvath, MD, PhD

*NSW Healthy Pathology, Sydney, NSW, Australia*

**Clinical Performance Criteria and Clinical Effectiveness of Biomarker Testing**

#Patrick Bossuyt, PhD

*University of Amsterdam, Amsterdam, Netherlands*

**Patient-Centered Laboratory Medicine—How Laboratory Testing Impacts on Outcomes**

\*Mike Hallworth, MA, MSc, MCB, FRCPath

*Retired, Shrewsbury, United Kingdom*

## SYMPOSIA 2:30PM - 5:00PM

**Serum Protein Electrophoresis Reporting: New Consensus Guidelines, Interactive Cases, and Interferences**

33217

San Diego Convention Center - 33B

Level: Intermediate

CE Credit: 2.5

## MODERATOR

#Ronald Booth, PhD, FCACB, FACB

*The Ottawa Hospital, Ottawa, ON, Canada**Developed in cooperation with Canadian Society of Clinical Chemists Monoclonal Gammopathy Working Group, Clinical & Diagnostic Immunology Division***INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical biochemists, and technologists involved in performing and interpreting serum and/or urine protein electrophoresis.**SESSION OVERVIEW:** SPE reporting varies significantly between laboratories and individuals. This session will present new consensus recommendations jointly developed by laboratorians and myeloma clinicians focused on synoptic reporting. This will be followed by interactive case presentations using standardized approaches and a practical discussion of interferences, such as monoclonal therapies.**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) identify the need for standardization of protein electrophoresis reporting; 2) apply the new consensus recommendations for serum protein electrophoresis reporting; and 3) identify and manage both common and rare interferences encountered when interpreting protein electrophoresis.

## SPEAKERS

**2017 Consensus Recommendations for Protein Electrophoresis Reporting**

#Ronald Booth, PhD, FCACB, FACB

*The Ottawa Hospital, Ottawa, ON, Canada***Interactive Serum Protein Electrophoresis Case Reporting: A Step Towards Standardization and Synoptic Reporting**

#Chris McCudden, PhD, DABCC, FCACB, FACB

*The Ottawa Hospital, Ottawa, ON, Canada***Challenges in Measuring Monoclonal Proteins**

#David Keren, MD

*The University of Michigan Medical School, Ann Arbor, MI***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 by some people as a real or potential 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.

SYMPOSIA 2:30PM - 5:00PM

**Not Out for Blood: Clinical Evaluations of Emerging Samples, Sensors, and Devices**

33219

San Diego Convention Center - 32AB

Level: Basic  
CE Credit: 2.5\*

MODERATOR

**\*Jerry Cangelosi, PhD**

*University of Washington, Seattle, WA*

*\* Credits for this session are pending.  
Attendees should check the mobile app  
or [www.aacc.org/2017AM](http://www.aacc.org/2017AM) for updates.*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, medical technologists, laboratory administrators, academic researchers, and IVD industry scientists with an interest in learning about emerging technologies poised to be the future of diagnostics.

**SESSION OVERVIEW:** Recent technological and scientific advances have enabled diagnostic approaches previously described only in science fiction, including non-invasive sampling, wearable devices, and implantable sensors. These technologies, when coupled with increased mobile connectivity, have the potential to expand access to real-time, near-patient clinical testing. This session highlights selected emerging diagnostic strategies of this type, which have shown promise in early studies in the clinic or on human volunteers.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) define and describe cutting-edge advances in non-invasive sampling, wearable devices, and implantable sensors; 2) discuss the unique challenges of clinically evaluating emerging diagnostics that utilize novel sampling and analytical strategies; and 3) summarize emerging diagnostic paradigms that have demonstrated promise in clinical evaluations and field trials.

**SPEAKERS**

**Development of Point-Of-Care Diagnostics for Infectious Diseases:  
From Bench to Consumer**

#Samiksha Nayak, MS  
*Columbia University, New York, NY*

**Wearable Electrochemical Sensors**

#Joseph Wang, DSc, MSc  
*University of California San Diego, La Jolla, CA*

**Micro Nanotechnologies for the Clinical Applications of Circulating Tumor Cells:  
Implementing Liquid Biopsy**

#Sunitha Nagrath, MS, PhD  
*University of Michigan, Ann Arbor, MI*

**Biomedical Applications of Single Walled Carbon Nanotube Biosensors**

#Michael Strano, PhD  
*MIT, Cambridge, MA*

**Non-Invasive Infectious Disease Sampling and Viability Testing**

\*Jerry Cangelosi, PhD  
*University of Washington, Seattle, WA*

## SYMPOSIA 2:30PM - 5:00PM

**Biomarkers of Heart Failure with Preserved Ejection Fraction**

33220

San Diego Convention Center - 31ABC

Level: Intermediate

CE Credit: 2.5

## MODERATOR

**\*Petr Jarolim, MD, PhD***Brigham and Women's Hospital,  
Harvard Medical School, Boston, MA***INTENDED AUDIENCE:** Laboratory directors, clinical chemists, pathologists, medical technologists as well as IVD industry scientists.**SESSION OVERVIEW:** The prevalence of heart failure with preserved ejection fraction will soon exceed that of the well-established and better understood heart failure with reduced ejection fraction. This session will cover pathophysiology of heart failure with preserved ejection fraction and biomarkers that can be used for its diagnosis, monitoring and therapeutic guidance.**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) summarize the differences between heart failure with reduced and preserved ejection fraction; 2) describe reasons for different performance of established and novel biomarkers of heart failure in these two heart failure subtypes; and 3) identify promising clinical assays for the diagnosis and monitoring of patients with heart failure with preserved ejection fraction.

## SPEAKERS

**Heart Failure with Preserved Ejection Fraction: Pathophysiology of an Emerging Epidemic**

#Garrick Stewart, MD MPH

*Brigham and Women's Hospital, Harvard Medical School, Boston, MA***What Do Natriuretic Peptides Tell Us in Heart Failure with Preserved Ejection Fraction****\*Petr Jarolim, MD, PhD***Brigham and Women's Hospital, Harvard Medical School, Boston, MA***Beyond BNP: Biomarkers in HFpEF and the Pursuit of Personalized Medicine****\*David Morrow, MD, MPH***Brigham and Women's Hospital, Harvard Medical School, Boston, MA*

## SHORT COURSES 2:30PM - 5:00PM

**Genomics 101: An Interactive Workshop**

73210

San Diego Convention Center - 6C/6D

Level: Basic

CE Credit: 2.5

## MODERATOR

**#Helen Fernandes, PhD***Columbia University Medical Center,  
New York, NY***INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, laboratory supervisors, residents/fellows, medical technologists, IVD industry scientists, and those interested in clinical chemistry and molecular diagnostics.**SESSION OVERVIEW:** Genomic medicine is transforming healthcare. Using a case-based, interactive small-group approach, participants will learn introductory principles related to developing genomic assays and interpreting results. The workshop includes practical hands-on instruction with online genomics tools. Workshop material is based on the Training Residents in Genomics (TRIG) curriculum ([www.pathologylearning.org/trig](http://www.pathologylearning.org/trig)).*Workshop requirements: Participants must bring a laptop for this course.***EXPECTED OUTCOMES:** After this session, participants will be able to: 1) identify central applications and interpretive considerations of genomic oncology tests; 2) determine the clinical significance of genomic variants using online tools; 3) evaluate critically the benefits and limitations of genomic testing in the context of patient care; and 4) recognize the significance of incidental findings that may arise from genomic testing.

## SPEAKERS

**An Innovative Approach to Teaching Genomic Medicine**

#Richard Haspel, MD, PhD

*Beth Israel Deaconess Medical Center, Boston, MA***Designing a Multiplex Genetic Assay Case Example**

#John Howe, PhD, DABCC

*Yale University School of Medicine, New Haven, CT***Exploring Exome Sequencing with a Case Example****\*Jason Park, MD, PhD***UT Southwestern and Children's Medical Center, Dallas, TX*

SHORT COURSES 2:30PM - 5:00PM

**Enhancing the Diagnostic Value of Clinical Laboratory Testing Using Data Mining, Machine Learning, Informatics and Clinical Decision Support**

73211

San Diego Convention Center - 29D

Level: Intermediate

CE Credit: 2.5

**MODERATOR**

**\*Jason Baron, MD**

*Massachusetts General Hospital, Boston, MA*

**INTENDED AUDIENCE:** Laboratory medicine physicians, laboratory directors, pathologists, clinical chemists, supervisors, medical technologists, residents/fellows, IVD industry scientists, and other healthcare professionals interested in bioinformatics.

**SESSION OVERVIEW:** From GPS navigation to weather forecasting, artificially intelligent systems have become ubiquitous and are now looking to transform health care.

Computational Pathology draws on machine learning and data analytic strategies to allow the fields of pathology and laboratory medicine to increasingly report integrative, predictive and prescriptive information. This session will use a series of cases studies and practical synopses to illustrate key concepts related to clinical data mining, EHR optimization, machine learning and intelligent clinical decision support.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) explain the basics of machine learning; 2) identify opportunities to optimize health information systems; 3) detail strategies to apply clinical decision support within existing health information technology; and 4) design projects to use data mining to uncover encoded data in test panels and to monitor clinical quality.

**SPEAKERS**

**Machine Learning, Data Mining and Intelligent Clinical Decision Support: An Overview and Applications to the Clinical Laboratory**

\*Jason Baron, MD

*Massachusetts General Hospital, Boston, MA*

**Intelligent Clinical Decision Support and Image Analysis in Anatomic Pathology**

\*Christopher Garcia, MD

*Medical College of Wisconsin, Milwaukee, WI*

**Technical and Cost Analysis for Clinical Decision Support for Genomic and Molecular Pathology**

#Brian Shirts, PhD

*University of Washington, Seattle, WA*

**Mining the Electronic Health Record to Derive New Clinical Laboratory Knowledge**

#Lee Schroeder, MD, PhD

*University of Michigan, Ann Arbor, MI*

## SYMPOSIUM 4:00PM - 5:00PM

**Laboratory Medicine Family  
Feud: AACC Leadership vs. SYCL**

33214

San Diego Convention Center - 29ABC

Level: Basic

CE Credit: 1

## MODERATOR

**\*Paul Jannetto, PhD, DABCC, FACB,  
MT(ASCP)***Mayo Clinic, Rochester, MN***INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, technologists, fellows/residents, and IVD industry scientists.**SESSION OVERVIEW:** This session will cover various areas of laboratory medicine including biomarkers (oncology/cardiovascular), molecular testing, POCT, TDM/Toxicology and over utilized or outdated tests. These topics will be covered using the Family Feud style game pitting AACC leadership against SYCL members.**EXPECTED OUTCOMES:** After this session, the participants will be able to: 1) list various tumor markers and their clinical utility; 2) identify new and current cardiovascular biomarkers; 3) discuss the most commonly used/abused drugs; 4) recognize outdated and over-utilized tests; and 5) list common factors that can affect laboratory test results.**SPEAKERS****AACC LEADERSHIP**

#Michael Bennett, PhD, DABCC, FACB

*University of Pennsylvania and Children's Hospital of Philadelphia, Philadelphia, PA*

#Steven Cotten, PhD, DABCC

*The Ohio State University Wexner Medical Center, Columbus, OH*

#Dennis Dietzen, PhD, DABCC

*Washington University School of Medicine, St. Louis, MO*

#Patricia Jones, PhD, DABCC, FACB

*Children's Medical Center, Dallas, TX*

#Anthony Killeen, MD, PhD

*University of Minnesota, Minneapolis, MN***SYCL**

#Linnea Baudhuin, PhD

*Mayo Clinic, Rochester, MN*

#Deborah French, PhD, DABCC, FACB

*University of California San Francisco, San Francisco, CA*

#T. Scott Isbell, PhD, DABCC

*Saint Louis University School of Medicine, St. Louis, MO*

\*Nichole Korpi-Steiner, PhD, DABCC, FACB

*University of North Carolina, Chapel Hill, NC*

#Jeff Meeusen, PhD

*Mayo Clinic, Rochester, MN*



# WEDNESDAY AUGUST 2

PLENARY & EDUCATION SESSIONS

PLENARY SESSION 14001  
**ANTIBIOTIC RESISTANCE:  
A PUBLIC HEALTH CRISIS**



**\*VICTORIA J. FRASER, MD**  
Washington University School of Medicine,  
St. Louis, MO

WEDNESDAY, AUGUST 2  
8:45am - 10:15am  
San Diego Convention Center - Ballroom 20  
Level: Basic CE Credit: 1

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, microbiologists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** Infections with antibiotic resistant bacteria have become a major problem in the United States and throughout the world with a significant effect on morbidity and mortality. In this presentation, the major challenges in antimicrobial resistance nationwide as well as the evolving diagnostic tools and strategies for prevention and control of antimicrobial resistance in hospitals will be discussed. In addition, the important role of the clinical pathology laboratory in infection prevention and antimicrobial stewardship will be reviewed.

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

1) describe the changing epidemiology of antibiotic resistance; 2) explain the key elements needed to combat antibiotic resistance; and 3) discuss the role of antimicrobial stewardship and infection prevention to limit the spread of antibiotic resistance.

**PLEASE REFER TO  
THIS GUIDE WHEN  
MAKING YOUR  
SESSION SELECTIONS**

Each session is identified by a five- or six-digit session number.

**EXAMPLE**

Session 72105 is a:  
A. Short Course  
B. On Monday  
C. In the Morning

**SESSION TYPE**

A. FIRST DIGIT  
1 =Plenary Sessions  
3 =Symposia  
4 =AM Brown Bag Sessions  
5 =PM Brown Bag Sessions  
6 =Meet the Expert Session  
7 =Short Courses  
19 = Sunday AACC University  
Sessions

**SESSION DAY**

B. SECOND DIGIT  
1 = Sunday  
2 = Monday  
3 = Tuesday  
4 = Wednesday  
5 = Thursday

**SESSION TIME**

C. THIRD DIGIT  
1 = am  
2 = pm  
4 = Mid-day

The last two digits are  
AACC internal numbers.

**BROWN BAG SESSIONS** 7:30AM - 8:30AM & 12:30PM - 1:30PM



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 Brown Bag Session) unless otherwise noted San Diego Convention Center - 6A/6B

TITLE	SESSION NUMBER AM	SESSION NUMBER PM	LEVEL	SPEAKERS
Thyroid Function and Laboratory Assessment of Thyroid Disease	44101	54201	Intermediate	<b>#David Kemble, PhD</b> Dartmouth-Hitchcock Medical Center, Lebanon, NH
Innovative Applications in the Work-up of Primary Aldosteronism: Assays and Diagnostic Management Teams	44102	54202	Intermediate	<b>*Joesph Wiencek, PhD</b> Vanderbilt University School of Medicine, Nashville, TN
Syphilis Testing Triple-A: Advancements, Automation, Algorithms	44103	54203	Basic	<b>#Vera Tesic, MD</b> University of Chicago, Chicago, IL
How Statistics Influence Our Clinical Decisions	44104	54204	Basic	<b>*Oswald Sonntag, PhD</b> Bio-Rad Laboratories, Munchen, Germany
What's THAT?—Real World Troubleshooting	44105	54205	Intermediate	<b>#Danyel Tacker, PhD, FACB, DABCC</b> West Virginia University, Morgantown, WV
Overview of Marijuana Metabolites, Pharmacokinetics, and the Utility of Potential Biomarkers	44106	54206	Basic	<b>#Breland Smith, PhD, ASCP</b> University of California, San Diego, San Diego, CA
Implementing a Test Utilization Program	44107	54207	Basic	<b>#Michele Koester</b> North Memorial Health, Robbinsdale, MN
Evaluation of MALDI-TOF Mass Spectrometry for Pharmacogenetic Testing in Clinical Laboratories	44108	54208	Basic	<b>#Fang Wu, PhD</b> University of Utah and ARUP Laboratories, Salt Lake City, UT
Procalcitonin and Lactate—The Community Hospital Example	44109	54209	Basic	<b>#Maria Gauthreaux, MSHSA, MT(ASCP)</b> West Kendall Baptist Hospital, Miami, FL
Natriuretic Peptides: Testing BNP and NT-proBNP with Nephrylsin Inhibitors	44110	54210	Basic	<b>#Sean Campbell, PhD</b> University of Virginia Health System, Charlottesville, VA
The CDC Vitamin D Standardization-Certification Program (VDSCP): Improving the Clinical Measurement of Total 25-Hydroxyvitamin D	44111	54211	Intermediate	<b>#Otoe Sugahara, BS</b> Centers for Disease Control and Prevention, Atlanta, GA
Minimal Residual Disease in Multiple Myeloma: The Need for More Sensitive Assays?	44112	54212	Basic	<b>#Dorothy Truong, PhD</b> University of Toronto, Richmond Hill, ON, Canada
Sepsis Biomarkers and the Role of the Laboratory	44114	54214	Basic	<b>#Angela Fung, PhD</b> University of Toronto, Toronto, ON, Canada
Liquid Biopsy: A New Trend in Clinical Testing	44115	54215	Basic	<b>#Ventzi Hristova, PhD</b> Johns Hopkins School of Medicine, Baltimore, MD

TITLE	SESSION NUMBER AM	SESSION NUMBER PM	LEVEL	SPEAKERS
A Dirty Assay: Challenges of PTH Estimation and Progress in PTH Harmonization	44116	54216	Intermediate	<b>#Asmita Hazra, MBBS, MD</b> Assistant Professor, Jodhpur, Rajasthan, India
Emerging Trends in Vitamin Supplementation	44117	54217	Intermediate	<b>#Carmen Gherasim, PhD</b> ARUP Laboratories, Salt Lake City, UT
Drug Screens: Basic Principles, Principle Problems, and Future Approaches	44118	54218	Basic	<b>#Mitchell McGill, PhD</b> Washington University School of Medicine, St. Louis, MO
Case Studies: Acceptability of Patient Risk at Monthly/Regular QC Review	44119	54219	Intermediate	<b>*Zoe Brooks, ART, CSMLS</b> AWEsome Numbers Inc., Worthington, ON, Canada
Strategy for Provider-Performed Microscopy Testing Competency Management	44120	54220	Basic	<b>#Hoi-Ying (Elsie) Yu, PhD, DABCC, FACB</b> Geisinger Health System, Danville, PA
Designing a Successful Point-of-Care Testing Program: Survival Guide for New Laboratory Directors <i>Developed in cooperation with SYCL</i>	44121	54221	Basic	<b>#Rob Nerenz, PhD, DABCC</b> Dartmouth-Hitchcock Medical Center, Lebanon, NH
Methods to Detect Circulating MicroRNAs (miRNAs) in the Clinical Laboratory	44122	54222	Basic	<b>#Nicole White-Al Habeeb, PhD</b> Hospital for Sick Children, Toronto, ON, Canada
Testing for Alpha 1-Antitrypsin Deficiency	44123	54223	Intermediate	<b>#Joshua Bornhorst, PhD, DABCC</b> Mayo Clinic, Rochester MN
Discrepancies in HIV Screening and Confirmation Results	44124	54224	Intermediate	<b>#Anthony Okorodudu, PhD, MBA, DABCC</b> University of Texas Medical Branch, Galveston, TX
Counting on AMH Immunoassays	44125	54225	Intermediate	<b>*Geraldyn Lambert-Messerlian, PhD, FACB</b> Women & Infants Hospital and the Alpert Medical School of Brown University, Providence, RI
Biotin-Related Interference with Immunoassay Methodologies <i>(ACCENT® credit only)</i>	44126	54226	Intermediate	<b>*Randal Schneider, PhD</b> Abbott Diagnostics, Waterford, WI
Digging Deep: Tackling Difficult Lab Safety Issues	44127	54227	Intermediate	<b>*Dan Scungio, MT(ASCP), SLS, COA (ASQ)</b> Sentara Healthcare, Hampton, VA
Management of Incidental Laboratory Findings	44128	54228	Intermediate	<b>#Michael Lewis, MD, MBA</b> University of Vermont Medical Center, Burlington, VT
Case Studies in Clinical Toxicology—How to Make Sense of Urine Drug Screen Results	44129	54229	Basic	<b>#Hema Ketha, PhD</b> University of Michigan, Ann Arbor, MI
C. difficile Testing—A Wealth of Opportunity	44130	54230	Intermediate	<b>#Stacy Beal, MD</b> University of Florida College of Medicine, Gainesville, FL

MEET THE EXPERT 10:30AM - 11:30AM

**Antibiotic Resistance: A Public Health Crisis**

64101

San Diego Convention Center - 29D

Level: Basic  
CE Credit: 1

MODERATOR

**#Ann Gronowski, PhD, DABCC, FACB**  
*Washington University School of Medicine,  
St. Louis, MO*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, microbiologists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** This session provides an excellent opportunity for a limited number of attendees to meet with Dr. Victoria Fraser, a distinguished infectious disease physician who studies the epidemiology of nosocomial infections including surgical site infections, blood stream infections and ventilator-associated pneumonia. Dr. Fraser will discuss the evolving diagnostic tools and strategies for prevention and control of antimicrobial resistance in hospitals. In addition, the important role of the clinical pathology laboratory in infection prevention and antimicrobial stewardship will be reviewed.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the changing epidemiology of antibiotic resistance; 2) explain the key elements needed to combat antibiotic resistance; and 3) discuss the role of antimicrobial stewardship and infection prevention to limit the spread of antibiotic resistance.

**SPEAKER**

**Antibiotic Resistance: A Public Health Crisis**

\*Victoria J. Fraser, MD

*Washington University School of Medicine, St Louis, MO*

SYMPOSIA 10:30AM - NOON

**The Role of the Clinical Laboratory in Antimicrobial Stewardship**

34103

San Diego Convention Center - 31ABC

Level: Intermediate  
CE Credit: 1.5

MODERATOR

**\*Carey-Ann Burnham, PhD**  
*Washington University School of Medicine,  
St. Louis, MO*

**INTENDED AUDIENCE:** Laboratory medicine physicians, laboratory directors, pathologists, clinical chemists, supervisors, medical technologists, residents/fellows, IVD industry scientists, and other healthcare professionals who participate in patient care.

**SESSION OVERVIEW:** Although antibiotics have transformed the practice of medicine, up to half of antibiotic prescriptions are either unnecessary or inappropriate. Antimicrobial Stewardship programs facilitate optimal use of antimicrobial agents and are being required by regulatory agencies. This session will describe the role of the clinical laboratory in Antimicrobial Stewardship programs.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) summarize how laboratory reports can contribute to an institutional antimicrobial stewardship program; 2) explain the key elements of a cumulative antibiogram report; 3) discuss the role of rapid diagnostic testing in antibiotic selection; and 4) describe approaches to selective and cascade reporting of antimicrobial susceptibility results, and the impact on antimicrobial utilization.

**SPEAKERS**

**Stewardship Overview and Rapid Diagnostic Methods**

#Melanie Yarbrough, PhD

*Washington University School of Medicine, St. Louis, MO*

**Antibiograms and Selective Reporting: Impact on Antibiotic Prescribing Practices**

\*Carey-Ann Burnham, PhD

*Washington University School of Medicine, St. Louis, MO*

**Point-of-Care Technologies for Fighting Antimicrobial Resistance**

#Gyorgy Abel, MD, PhD, DABCC, FACB

*Lahey Hospital & Medical Center, Burlington, MA*

## SYMPOSIA 10:30AM - NOON

**Practical Considerations for Realizing Precision Oncology in Clinical Laboratories**

34104

San Diego Convention Center - 6F

Level: Advanced

CE Credit: 1.5

## MODERATOR

#Helen Fernandes, PhD

Columbia University Medical Center,  
New York, NY*Developed in cooperation with Molecular Pathology Division***INTENDED AUDIENCE:** Pathologists, laboratory directors, lab administrators, supervisors, clinical chemists, technologists, and IVD industry scientists. This session is meant to inform and update all clinical laboratory personnel who have developed or are planning to develop, validate and implement genomic testing in their respective facilities.**SESSION OVERVIEW:** Precision Medicine is at the center of scientific, clinical and governmental meetings and publications. There are however, practical considerations that need to be addressed before venturing on to genomic testing. This session will discuss and debate the pros and cons of implementing Precision Oncology in a routine clinical laboratory.**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) identify current and future technologies for genomic testing; 2) list the benefits and limitations of genomic testing of tumors in the context of patient care; and 3) discuss the pros and cons of the involvement federal agencies in the implementation of genomic testing in clinical laboratories.

## SPEAKERS

**The Past, the Present, and the Future of Genomics in the Clinical Laboratory**

\*Gregory Tsongalis, PhD, HCLD

*Geisel School of Medicine at Dartmouth, Lebanon, NH***The Benefits and Challenges of Next Generation Sequencing in Routine Clinical Molecular Diagnostics**

#Andrea Ferreira-Gonzalez, PhD

*Virginia Commonwealth University, Richmond, VA***Pros and Cons of Federal Regulations—The Laboratorian's Perspective**

#Anthony Sireci, MD, MSc

*Columbia University, New York, NY***Antiphospholipid Syndrome: Clinical Presentation and Laboratory Investigation**

34105

San Diego Convention Center - 28ABC

Level: Intermediate

CE Credit: 1.5

## MODERATOR

#John Mitsios, PhD

*BioReference Laboratories,  
Elmwood Park, NJ**Developed in cooperation with Clinical & Diagnostic Immunology Division, Hematology & Coagulation Division***INTENDED AUDIENCE:** Clinical chemists, laboratory technologists, residents, and pathologists.**SESSION OVERVIEW:** This session will review the clinical presentation, laboratory diagnosis including specialized testing, and treatment of antiphospholipid syndrome (APS). The presentation will conclude with case scenarios that highlight the teaching points from the presentation.**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) list the variable clinical presentations of APS; 2) describe the laboratory tests needed to diagnose APS; 3) compare and contrast the detection of the lupus inhibitor (anticoagulant) versus the detection of APS-associated autoantibodies; and 4) list evidence-based guidelines for the treatment of arterial and venous complications as well as obstetric manifestations of APS.

## SPEAKERS

**Antiphospholipid Syndrome: Clinical Presentation and Treatment**

#Anita Rajasekhar, MD, MS

*Washington University School of Medicine, St. Louis, MO***Antiphospholipid Syndrome: Laboratory Investigation**

#John Mitsios, PhD

*BioReference Laboratories, Elmwood Park, NJ*

SYMPOSIA 10:30AM - NOON

**Non-Harmonized Results Cause Medical Errors—Unless We Prevent Them**

34106

San Diego Convention Center - 30ABC

Level: Intermediate

CE Credit: 1.5

MODERATOR

#Hubert Vesper, PhD

Centers for Disease Control and Prevention,  
Atlanta, GA

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, technologists, and IVD industry scientists.

**SESSION OVERVIEW:** Non-harmonized laboratory results can lead to misclassification of patients and inconsistent patient care decisions. This problem is minimized by correctly calibrating laboratory tests using appropriate commutable reference materials and have target values assigned with generally accepted reference procedures. To achieve harmonized and reliable laboratory test results, the clinical laboratory needs to collaborate with new and traditional stakeholders to inform them about the clinical needs and analytical requirements, and to promote programs to achieve harmonized, high quality laboratory test results.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) list current approaches to harmonize laboratory test results; 2) explain how the laboratory is engaging the legislative system to improve the situation; 3) explain the importance of commutability and procedures to use commutability information; and 4) describe how stakeholders can inform the laboratory about clinical needs and collaborate with the laboratory to implement harmonized tests.

**SPEAKERS**

**Problems with Non-Harmonized Results and How Do We Prevent Them**

#Stephen Master, MD, PhD, FCAP, FACB

Weill Cornell Medical College, New York, NY

**Addressing Commutability Limitations**

\*Greg Miller, PhD, DABCC

Virginia Commonwealth University, Richmond, VA

**Benefits of Stakeholder Engagement and Support**

#Hubert Vesper, PhD

Centers for Disease Control and Prevention, Atlanta, GA

Invited Oral Abstracts:

**Point-of-Care Testing**

34107

San Diego Convention Center - 30DE

Level: Intermediate

CE Credit: 1.5\*

MODERATOR

\*Martha Lyon, PhD

Royal University Hospital,  
Saskatoon, SK, Canada

\* Credits for this session are pending.  
Attendees should check the mobile app  
or [www.aacc.org/2017AM](http://www.aacc.org/2017AM) for updates.

**INTENDED AUDIENCE:** Postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** AACC is dedicated to advancing 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 in the area of point-of-care testing 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 point-of-care testing; 2) compare and contrast the research in point-of-care testing to the practice of pathology and laboratory medicine; and 3) integrate and translate state of the art knowledge in point-of-care testing into the roles and responsibilities of the clinical laboratory professional.

**SPEAKERS**

**Rapid Detection of Early Stage Mycoplasma Pneumoniae Infection Using Single-Walled Carbon Nanotube/Colloidal Gold Based Immunochromatographic Strips**

#Weizhuo Xu

Shenyang Pharmaceutical University, Shenyang, China

**Evaluation of a POC INR Program in a Long-Term Care Setting: Comparison of the CoaguCheX XS and Time in Therapeutic Range Versus Laboratory-Based Monitoring**

\*Dana Nyholt-Bailey, MSc, PhD, FCACB

DynaCare, London, ON, Canada

**Comparison of Creatinine on the Alere Epoc Blood Analysis System Against Multiple Point-of-Care and Central Laboratory Assays**

#Albert KY Tsui, PhD

University of Alberta, Edmonton, AB, Canada

**Analytical Evaluation of Blood Gas Syringes for Pneumatic Tube Systems**

#Ben Collins, BS

Instrumentation Laboratory, Bedford, MA

**Optimization of Lactate Measurements for Sepsis Guidelines Using Point of Care Testing**

#Lilah M. Evans, MT(ASCP)

Thomas Jefferson University Hospital, Philadelphia, PA

## SYMPOSIA 10:30AM - NOON

**Relevant, Practical and Novel Topics  
from the *Journal of Applied  
Laboratory Medicine***

34121

San Diego Convention Center - 28DE

Level: Intermediate

CE Credit: 1.5

## MODERATOR

**#Robert Christenson, PhD, DABCC, FACB**  
*University of Maryland School of Medicine,  
Baltimore, MD**Supported by Beckman Coulter, Inc.***INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, molecular diagnostics specialists, technologists, regulatory personnel, and IVD industry scientists and managers.**SESSION OVERVIEW:** This session showcases a collection of topics that were published and well received in the *Journal of Applied Laboratory Medicine*. Results from the ASSESS study; utilization of the AACC Universal Sample Bank; development of a LC MSMS method for measuring atovaquone; and lipid recommendations from evidence-based laboratory medicine will be discussed.**EXPECTED OUTCOMES:** After this session participants will be able to: 1) identify a troponin method comparison resource that includes high-sensitivity, POC and contemporary assays; 2) describe how a method for the anti-malaria Atovaquone will be beneficial; 3) list benefits and effect-sizes associated with inclusion of novel lipids to risk prediction; and 4) explain how to obtain a cohort of normal samples for determining a troponin 99th percentile.

## SPEAKERS

**The ASSESS Trial: A Multi-Instrument Evaluation of 13 Commercial Troponin Assays: Sample Analysis in a Common Cohort of Samples**

#Robert Christenson, PhD, DABCC, FACB

*University of Maryland School of Medicine, Baltimore, MD***An Ultra-Performance LC-MS/MS Method for the Quantification of the Antimalarial Atovaquone in Plasma**

#Allison Chambliss, PhD, DABCC

*Keck Medicine of University of Southern California, Los Angeles, CA***Lipoprotein Biomarkers and Risk of Cardiovascular Disease: A Laboratory Medicine Best Practices (LMBP) Systematic Review**

#Paramjit Sandhu, MPH, MD

*Centers for Disease Control and Prevention, Atlanta, GA***Creation of a Universal Sample Bank for Determining the 99th Percentile for Cardiac Troponin Assays**

\*Alan Wu, PhD, DABCC, FACB

*University of California/San Francisco General Hospital, San Francisco, CA*

SHORT COURSE 10:30AM - NOON

**Clinical and Laboratory Aspects of Monoclonal Antibody Therapeutics**

74102

San Diego Convention Center - 6E

Level: Intermediate

CE Credit: 1.5

**MODERATOR**

**#Melissa Snyder, PhD, DABCC**

*Mayo Clinic, Rochester, MN*

*Developed in cooperation with Clinical & Diagnostic Immunology Division*

**INTENDED AUDIENCE:** Laboratory directors, pathologists, laboratory technologists, IVD manufacturers, pharmaceutical scientists, and anyone interested in the clinical or laboratory aspects of therapeutic monoclonal antibodies.

**SESSION OVERVIEW:** Monoclonal antibodies represent a unique class of therapeutic agents. These molecules are used to treat a variety of diseases, including solid-organ tumors, hematological malignancies, rheumatological disorders, and autoimmune gastrointestinal diseases. The clinical laboratory can make critical contributions to the management of patients receiving these treatments through quantitative measurement of the therapeutic antibodies and assessment of anti-drug antibodies. However, it is important to recognize that these drugs can also pose challenges through interference in some existing laboratory tests.

This session will provide laboratorians with information relevant to the utility of monoclonal antibodies as therapies. As more and more monoclonal antibodies are approved for clinical use, the role of the clinical laboratory will continue to expand, with two main perspectives: the quantitation of antibody therapeutics and detection of anti-drug antibodies with specialized testing, and the recognition of this new class of therapies as interferents in routine testing and their impact on patient care.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) list the classes of monoclonal antibody therapeutics and their clinical applications; 2) explain the methods available for the measurement of monoclonal antibody therapeutics and assessment of anti-drug antibodies; and 3) discuss how the presence of monoclonal therapeutic antibodies can impact and/or interfere in existing clinical tests, such as protein electrophoresis and immunofixation.

**SPEAKERS**

**Monoclonal Antibody Therapeutics as Potential Interferents on Protein Electrophoresis and Related Tests**

**#Maria Alice Willrich, PhD, DABCC, FACB**

*Mayo Clinic, Rochester, MN*

**Assessment of Monoclonal Antibody Therapeutics and Anti-Drug Antibodies**

**#Melissa Snyder, PhD, DABCC**

*Mayo Clinic, Rochester, MN*

## SYMPOSIUM 2:30PM - 4:00PM

Invited Oral Abstracts:

**Global Health**

34218

San Diego Convention Center - 31ABC

Level: Intermediate

CE Credit: 1.5\*

MODERATOR

#Timothy Amukele, MD, PhD

Johns Hopkins University, Baltimore, MD

\* Credits for this session are pending.  
Attendees should check the mobile app  
or [www.aacc.org/2017AM](http://www.aacc.org/2017AM) for updates.

**INTENDED AUDIENCE:** Postdoctoral fellows, pathologists, laboratory directors, clinical chemists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** AACC is dedicated to advancing 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 in the area of global health 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 global health; 2) compare and contrast the research in global health to the practice of pathology and laboratory medicine; and 3) integrate and translate state of the art knowledge in global health into the roles and responsibilities of the clinical laboratory professional.

**SPEAKERS**

**The Growth Differentiation Factor-15 Levels Are Increased in Patients with Compound Heterozygous Sickle Cell and Beta-Thalassemia, Correlate with Hcpidin-25Ferritin Molar Ratio and with Markers of Hemolysis, Angiogenesis, Endothelial and Renal Dysfunction**  
#Ioannis Papassotiriou, PhD

*Aghia Sophia Children's Hospital, Athens, Greece*

**Use of Urine Drug Screening Positivity Rates from Qualitative Liquid Chromatography Tandem Mass Spectrometry Definitive Testing to Identify Annual Trends in Drug Use**  
#Adam Ptolemy, PhD

*Dynacare, London, ON, Canada*

**Report on a European and Two Korean Population Clinical Trials for Multiplex Detection of HIV and HCV**

#Christian Oste

*PCL Inc., Seoul, Korea*

**Effectiveness of Practices to Foster Quality Improvement Through Reaching Adequate Blood Volumes in Microbiological Tests in Taiwan: From Systematic Reviews to Validity Assessments**

#Hsiao-Chen Ning, PhD

*Chang-Gung Memorial Hospital, Tao-Yuan, Taiwan*

**RIG-I Enhances IGN-a Response by Promoting Antiviral Proteins Expression in patients with CHB**

#Qishui Ou, PhD

*The 1st Affiliated Hospital of Fujian Medical University, Fuzhou, China*

SYMPOSIA 2:30PM - 5:00PM

**Ethics in Laboratory Medicine**

34207

San Diego Convention Center - 28DE

Level: Basic  
CE Credit: 2.5

MODERATOR

\*Kelly Dineen, JD, PhD

Saint Louis University, St. Louis, MO

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, immunologists, molecular biologists, technologists, and IVD industry scientists.

**SESSION OVERVIEW:** This session will focus on ethical and legal issues surrounding evolving technologies and laboratory medicine. Through lecture and case studies, the presenters will discuss the legal and ethical considerations around screening and testing for drugs of abuse, the implications of CRISPR-CAS9 and mitochondrial replacement, the interaction of HIPAA and CLIA regulations, and the ethical limits of next generation sequencing and biospecimen banking.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) explain how the HIPAA Privacy Rule interacts with the Clinical Laboratory Improvements Amendments Act of 1988; 2) discuss the primary legal considerations and conflicting ethical norms often at issue in testing for drugs of abuse; 3) describe the legal implications of CRISPR-CAS9 and Mitochondrial Replacement; and 4) identify the evolving ethical issues surrounding next generation sequencing and biospecimen banking and practices.

**SPEAKERS**

**Legal and Ethical Issues with Mitochondrial Replacement and CRISPR-cas9**

#Seema Mohapatra, JD, MPH

Barry University Dwayne O. Andreas School of Law, Orlando, FL

**The Ethics of Next Generation Sequencing and Biospecimen Banking**

#Neil Haycocks, MD, PhD

UNLV School of Medicine, Las Vegas, NV

**Legal and Ethical Challenges in Drug Testing**

\*Kelly Dineen, JD, PhD

Saint Louis University, St. Louis, MO

**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 by some people as a real or potential 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.

## SYMPOSIA 2:30PM - 5:00PM

**High-Sensitivity Cardiac Troponin:  
As with Every New Tool, There is a  
Learning Curve**

34213

San Diego Convention Center - 32AB

Level: Intermediate

CE Credit: 2.5

## MODERATOR

\*Pete Kavsak, PhD

*Juravinski Hospital and Cancer Centre,  
Hamilton, ON, Canada*

**INTENDED AUDIENCE:** Physicians, pathologists, laboratory directors, clinical chemists, technologists, and IVD industry scientists.

**SESSION OVERVIEW:** This session will engage the audience in the latest guidelines, developments, and interactive sessions on how clinical chemistry tests can be best utilized for early decision making in the emergency department for patients presenting with chest pain. The session will lead off with a debate from the ED perspective on new guidelines, followed by case studies demonstrating use of cardiac troponin and new published algorithms in this evolving area.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) identify the strengths and weakness in approaches/algorithms used to rule-in and rule-out myocardial infarction in the emergency department; 2) explain how the selection of “healthy individuals” and statistical techniques can result in different 99th percentile concentration cutoffs; and 3) evaluate laboratory practices that can mitigate an incorrect cardiac troponin result from being reported.

## SPEAKERS

**Debate on European Society of Cardiology (ESC) New Guidelines to Rule-in and Rule-out Acute Myocardial Infarction (AMI) in the Emergency Department (ED)—European Point-of-View from the ED**

\*Richard Body, PhD

*Manchester Royal Infirmary, Manchester, United Kingdom*

**Debate on European Society of Cardiology (ESC) New Guidelines to Rule-in and Rule-out Acute Myocardial Infarction (AMI) in the Emergency Department (ED)—Non European Point-of-View from the ED**

\*Martin Than, MBBS, FRCS (A&amp;E Ed.), FRCEM, FACEM

*Christchurch Public Hospital, Canterbury, New Zealand*

**Why Your Cardiac Troponin 99th Percentile Cutoff is Wrong**

#Peter Hickman, PhD, MD

*ACT Pathology, Woden, Australia*

**Why Your Cardiac Troponin Result is Wrong**

\*Pete Kavsak, PhD

*Juravinski Hospital and Cancer Centre, Hamilton, ON, Canada*

SYMPOSIA 2:30PM - 5:00PM

**AACC/ASCLS Healthcare Forum:  
Government Affairs Update**

34214

San Diego Convention Center - 6F

Level: Intermediate  
CE Credit: 2.5

**MODERATOR**

**#Vince Stine, PhD**  
*AACC, Washington, DC*

*Developed in cooperation with ASCLS*

**INTENDED AUDIENCE:** Laboratory directors, medical technologists, laboratory managers and other laboratory and industry personnel responsible for legislative, regulatory, payment and compliance issues.

**SESSION OVERVIEW:** This session will address FDA efforts to regulate laboratory developed tests; CMS implementation of a market-based laboratory fee schedule; an update on changes to the Clinical Laboratory Improvement Amendments program; and a big picture overview on future changes to the laboratory industry and how it operates.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) discuss FDA's current policy on LDT oversight; 2) describe changes to the CLIA program; 3) explain forthcoming changes in the clinical laboratory fee schedule; and 4) summarize potential changes in the healthcare industry and their impact on clinical laboratories.

**SPEAKERS**

**The Future Direction of CLIA**

**#Karen Dyer, MT(ASCP), DLM**

*Centers for Medicare & Medicaid Services, Baltimore, MD*

**PAMA and the New Payment Paradigm**

**\*Charles Root, PhD**

*CodeMap LLC, Schaumburg, IL*

**FDA's Regulatory Oversight of Next Generation Sequencing Diagnostic Tests**

**#Alberto Gutierrez, PhD**

*FDA/CDRH, Silver Spring, MD*

**The Changing Healthcare Environment and its Impact on Clinical Laboratories**

**#Elissa Passiment, EdM, CLS**

*EP Clinical Laboratory Consulting, Bluffton, SC*



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CONVERSATION.**

## SYMPOSIA 2:30PM - 5:00PM

**Current Practices and  
New Innovations in Newborn  
Screening**

34215

San Diego Convention Center - 6E

Level: Intermediate

CE Credit: 2.5

## MODERATOR

#Ronald Whitley, PhD, DABCC, FACB  
*University of Kentucky, Lexington, KY**Developed in cooperation with CDC (Centers for Disease Control and Prevention), CLSI (Clinical Laboratory Standards Institute), Pediatric and Maternal-Fetal Division***INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, clinical laboratory scientists, the pediatric provider community, public health professionals, and policy makers.**SESSION OVERVIEW:** Newborn screening is widely known to improve health outcomes through early detection and treatment of a number of congenital disorders. However, there are many challenges with laboratory testing, communication of test results, treatment and follow-up. This session will provide an overview of newborn screening and discuss the aforementioned challenges in light of current practice and new innovations.**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the process of newborn screening from sample collection to initial and follow-up testing and patient management; 2) identify major challenges encountered by laboratorians and clinicians in newborn screening; 3) summarize the current and future status of newborn screening; and 4) discuss quality assurance programs to support rapid and accurate test results.

## SPEAKERS

**CLSI Guidelines for Newborn Screening**#Ronald Whitley, PhD, DABCC, FACB  
*University of Kentucky, Lexington, KY***National Quality Efforts in Newborn Screening**#Carla Cuthbert, PhD, FACMG, FCCMG  
*Centers for Disease Control and Prevention, Atlanta, GA***Improved Performance of Newborn Screening Using Automated Adjustment of Results and Global Interpretive Tools**#Piero Rinaldo, MD, PhD  
*Mayo Clinic, Rochester, MN***The Laboratory's Role in Follow-up and Long-term Monitoring of Abnormal Newborn Screens**#Uttam Garg, PhD, DABCC, DABFT, FACB  
*Children's Mercy Hospital, Kansas City, MO***Clinical Aspects of Newborn Screening**#Jennifer Gannon, MD, FAAP, FACMG  
*Children's Mercy Hospital, Kansas City, MO*

SYMPOSIA 2:30PM - 5:00PM

**Precision Medicine Guided  
Pharmacotherapy in Cancer**

34216

San Diego Convention Center - 28ABC

Level: Intermediate

CE Credit: 2.5

**MODERATOR**

**#Serge Cremers, PharmD, PhD, FCP**

*Columbia University and  
New York-Presbyterian Hospital,  
New York, NY*

*Developed in cooperation with Personalized Medicine Division, TDM & Toxicology Division*

**INTENDED AUDIENCE:** Pathologists, clinical chemists, clinical pharmacologists, and clinicians.

**SESSION OVERVIEW:** This session will discuss Genomics, Transcriptomics and Systems Biology-based drug selection for the treatment of cancer patients. This will be followed by a clinician's perspective and experience in treating patients accordingly. The session will culminate with an overview of the potential roles of novel biomarkers and therapeutic drug monitoring in the treatment of cancer with off-label and experimental drugs.

**EXPECTED OUTCOMES:** At this session, participants will be able to: 1) describe the laboratory and interpretive components of genomics, transcriptomics and systems biology-based drug selection for the treatment of cancer patients; 2) list challenges associated with precision medicine-based drug selection and how such challenges lead to off-label and experimental drug use; 3) identify potential biochemical biomarkers that could be used to monitor therapeutic efficacy post-drug administrations; and 4) discuss the synergy of therapeutic drug monitoring of experimental drugs in supporting patient care and furthering drug development.

**SPEAKERS**

**Pharmacotherapy of Cancer, Based on Clinical Whole Exome, Transcriptomic, and Large Panel Mutation Testing of Tumors**

**#Mahesh Mansukhani, MD**

*Columbia University Medical Center, New York, NY*

**Precision Medicine in the Pediatric Oncology Clinic: Where the Rubber Meets the Road**

**\*Julia Glade Bender, MD**

*Columbia University Medical Center, New York, NY*

**Biomarkers for Precision Medicine Guided Therapy for Prostate Cancer**

**#Alex Rai, PhD, DABCC, FACB**

*Columbia University and New York-Presbyterian Hospital, New York, NY*

**TDM in the Era of Precision Medicine: Opportunities!**

**#Serge Cremers, PharmD, PhD, FCP**

*Columbia University and New York-Presbyterian Hospital, New York, NY*

## SYMPOSIA 2:30PM - 5:00PM

**Beyond the Traditional Environments: Defining the Role of Laboratory Medicine in Pharmacy and Direct to Consumer Testing**



34219

San Diego Convention Center - 33B

Level: Intermediate  
CE Credit: 2.5

## MODERATOR

**#T. Scott Isbell, PhD, DABCC, FACB**  
*Saint Louis University School of Medicine, St. Louis, MO*

*Developed in cooperation with Critical and Point-of-Care Testing Division*

**INTENDED AUDIENCE:** Clinical chemists, laboratory directors, pathologists, point-of-care coordinators, physicians, pharmacists, policy makers, and IVD industry scientists.

**SESSION OVERVIEW:** This interactive audience participation session will identify the current limitations of clinical testing in emerging models of patient-centered care and will outline a call to action for clinical laboratorians. Expert speakers will discuss the potential strengths, challenges, and opportunities associated with testing in retail pharmacy settings, integrating personal devices for at-home disease monitoring, and in direct to consumer (DTC) testing for facilitating patient engagement and improving outcomes.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) describe the current clinical testing challenges in the primary care setting; 2) list the benefits and challenges associated with lab testing in the pharmacy setting; 3) describe the role of personal connectivity devices and patient self-testing as an effective tool in the management of chronic disease; and 4) summarize the benefits and challenges of DTC testing, considering the critical assessment of methods.

## SPEAKERS

**Beyond the Laboratory, Time to Embrace a Paradigm Shift**

#T. Scott Isbell, PhD, DABCC, FACB  
*Saint Louis University School of Medicine, St. Louis, MO*

**Clinical Testing Needs in the Primary Care Setting**

#Augustine Sohn, MD  
*University of Illinois at Chicago, Chicago, IL*

**Advantages and Limitations of Direct to Consumer Testing**

#Nicole Tolan, PhD, DABCC  
*Beth Israel Deaconess Medical Center and Harvard Medical School, Boston, MA*

**The Role of Pharmacists to Support Primary Care**

\*Donald Klepser, PhD  
*University of Nebraska Medical Center, Omaha, NE*

**Integration of At-Home Clinical Testing with Personal Connectivity Devices**

#Christopher Longhurst, MD  
*University of California, San Diego Health System, San Diego, CA*

SYMPOSIA 2:30PM - 5:00PM

**Data Automation and Informatics with R: Application Showcase**

34220

San Diego Convention Center - 33A

Level: Basic  
CE Credit: 2.5

**MODERATOR**

**#Daniel Holmes, BSc, MD, FRCPC**

*St Paul's Hospital, Vancouver, BC, Canada*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, medical technologists, and laboratory administrators with an interest in learning how laboratorians 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 range over topics of machine learning, method evaluation, automated report generation, and instrument interfacing. Laptops are not needed for this session.

**EXPECTED OUTCOMES:** After this session, participants will 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 to enhance clinical laboratory operations; and 3) evaluate and solve clinical laboratory problems using computational thinking.

**SPEAKERS**

**Flat File Interfacing and Instrument with R. Application to the AB Sciex AP15000 LC-MS/MS**

**#Daniel Holmes, BSc, MD, FRCPC**

*St Paul's Hospital, Vancouver, BC, Canada*

**Using R to Build a Real Time Machine Learning Algorithm to Screen for Myelodysplastic Syndrome**

**#Stephen Master, MD, PhD, FCAP, FACB**

*Weill Cornell Medical College, New York, NY*

**RMarkdown: What is an Automated and Reproducible Report?**

**#Matthew Henderson, PhD, FCACB**

*Newborn Screening Ontario, Ottawa, ON, Canada*

**Using RMarkdown to Build Automated Physician Utilization Report Cards**

**#Patrick Mathias, MD, PhD**

*University of Washington, Seattle, WA*

**R Shiny: The Web App Builder for R: Application to Regression Analysis**

**#Burak Bahar, MD**

*Yale – New Haven Hospital, New Haven, CT*

**Simulations in R: Effects of Biological and Analytical Variation on Kidney Failure Risk Estimation**

**#Chris McCudden, PhD, DABCC, FCACB, FACB**

*The Ottawa Hospital, Ottawa, ON, Canada*

## SHORT COURSES 2:30PM - 5:00PM

**Laboratory Medicine Steps Up to the Plate: The Role of the Laboratory Professional in Reducing Diagnostic Error and Improving Test Utilization and Interpretation**

74210

San Diego Convention Center - 30ABC

Level: Intermediate

CE Credit: 2.5

## MODERATOR

\*Mike Hallworth, MA, MSc, MCB, FRCPath  
Retired, Shrewsbury, United Kingdom

**INTENDED AUDIENCE:** Laboratory medicine physicians, laboratory directors, pathologists, clinical chemists, supervisors, medical technologists, residents/fellows, IVD industry scientists, and other healthcare professionals who participate in patient care.

**SESSION OVERVIEW:** Medical errors are the third leading cause of death in the United States; diagnostic errors are estimated to result in up to 80,000 deaths annually. In 2015, The National Academies of Sciences, Engineering and Medicine generated the Improving Diagnosis in Health Care report, which endorsed the facilitation of more effective teamwork in the diagnostic process. This session will provide tools to enable laboratorians to effectively participate in clinical teams through the identification of laboratory testing contributions to diagnostic errors, improvement of test utilization, and the delivery of clinically relevant interpretations of laboratory tests.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) explain the ways in which testing-related diagnostic errors arise; 2) outline effective strategies to improve test utilization and implement a utilization management program; 3) describe the recommendations of the 2017 CLSI guideline on test utilization; and 4) partner more effectively with clinicians and diagnostic colleagues to ensure effective interpretation, improved diagnosis and better patient outcomes.

## SPEAKERS

**Adding Value and Reducing Diagnostic Error—Delivering Patient-Centered Laboratory Medicine**

\*Mike Hallworth, MA, MSc, MCB, FRCPath  
Retired, Shrewsbury, United Kingdom

**Developing an Effective Test Utilization Management System**

#Peter Perrotta, MD  
West Virginia University, Morgantown, WV

**Interacting with the Clinical Team—Providing Effective Interpretation of Laboratory Data Leading to Improved Clinical Outcomes**

#Danielle Freedman, MB, ChB, FRCPath, MD  
Luton & Dunstable Hospital NHS Trust, Luton, United Kingdom

SHORT COURSES 2:30PM - 5:00PM

**New Definitions and Guidelines for Management of the Septic Patient— The Novel and Essential Role of the Laboratorian on the Clinical Team**



74211

San Diego Convention Center - 30DE

Level: Intermediate  
CE Credit: 2.5

**MODERATOR**

**#Khushbu Patel, PhD, DABCC**

*University of Texas Southwestern, Dallas, TX*

**INTENDED AUDIENCE:** Laboratory directors, clinicians, pathologists, clinical chemists, supervisors, medical technologists, residents/fellows, IVD industry scientists, and other healthcare professionals who participate in patient care.

**SESSION OVERVIEW:** Sepsis remains a critical health problem and is the leading cause of death in non-cardiac intensive care units, requiring a need for early detection and intervention to reduce mortality. This session will highlight new guidelines in the diagnosis and monitoring of sepsis, and provide both the clinical laboratorian's and physician's perspectives on managing the septic patient. During this interactive session, the audience will debate the merits and applicability of the new guidelines as well the potential contributions of biomarkers, including lactate and procalcitonin, in sepsis management.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) define recent definitions and guidelines for sepsis management; 2) recognize the role of the laboratorian on the sepsis care team; 3) discuss the role of the laboratorian in antibiotic stewardship programs; 4) identify special considerations in the recognition and management of sepsis in pediatric populations; and 5) evaluate the potential utility of biomarkers such as lactate and procalcitonin in sepsis management.

**SPEAKERS**

**Managing the New Definition and Regulations for the Septic Patients— The Clinical Perspective**

#Todd Rice, MD, MSc

*Vanderbilt University Medical Center, Nashville, TN*

**The Role of the Laboratorian on the Sepsis Management Team—Assessment of Current and Novel Diagnostic Approaches**

\*Alison Woodworth, PhD, DABCC

*University of Kentucky, Lexington, KY*

**The Role of the Laboratorian in Antibiotic Stewardship Programs**

#Allison Chambliss, PhD, DABCC

*Keck Medicine of USC, Los Angeles, CA*

**Special Considerations with Pediatric Sepsis and Septic Shock**

#Khushbu Patel, PhD, DABCC

*UT Southwestern, Dallas, TX*

## SYMPOSIUM 4:00PM - 5:00PM

**Infectious Disease  
Quiz Show**

34212

San Diego Convention Center - 29ABC

Level: Intermediate

CE Credit: 1

## MODERATOR

**\*Carey-Ann Burnham, PhD***Washington University School of Medicine,  
St. Louis, MO*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, fellows, residents, medical technologists, and IVD industry scientists.

**SESSION OVERVIEW:** This case-based session will highlight advancements in the diagnosis of infectious disease of interest to a broad laboratory medicine audience. Using a "Quiz Show" format, audience members will participate via an audience response system. Topics will include Zika virus, mass spectrometry, antimicrobial resistance, and more.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) explain the advantages of MALDI-TOF mass spectrometry for pathogen identification; 2) discuss and summarize emerging issues in infectious diseases relevant to the clinical laboratory; and 3) contrast the utility of serologic testing to molecular diagnostics for infectious diseases.

**SPEAKERS****\*Carey-Ann Burnham, PhD***Washington University School of Medicine, St. Louis, MO***#Melanie Yarbrough, PhD***Washington University School of Medicine, St. Louis, MO*

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# THURSDAY AUGUST 3

PLENARY & EDUCATION SESSIONS

PLENARY SESSION 15001  
**MODERN, EFFECTIVE CARE FOR  
SUBSTANCE USE DISORDERS: FINDINGS  
FROM THE 2016 SURGEON GENERAL'S  
FACING ADDICTION REPORT**



**\*A. THOMAS McLELLAN, PhD**

Treatment Research Institute,  
Philadelphia, PA

THURSDAY, AUGUST 3

8:45am - 10:15am

San Diego Convention Center - Ballroom 20

Level: Basic CE Credit: 1

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, toxicologists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** Over 22 million Americans meet medical diagnostic criteria for “addiction” to alcohol and/or other drugs. Substance misuse and addiction cost our country over \$400 billion annually and are implicated in over 70% of deaths among adolescents. Overall prevalence rates and costs have not declined over the decades leading to the view that substance misuse and addiction may simply be an intractable part of our culture. But there is one exception—cigarette use. The prevalence, health harms and costs associated with cigarette use have been dramatically reduced over the past four decades as a direct result of broadly applied science-based public health policies and clinical practices. Using the three decades of research reviewed and synthesized in the recent Surgeon General’s Report entitled “Facing Addiction in the United States,” this presentation argues that a similar science-based strategy would be possible, practical and cost effective to implement, with potential public benefits comparable those seen with cigarettes.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) explain two major brain circuits/systems disrupted in the course of addiction; 2) cite one example from each of the three components of effective addiction treatment: Medications, Behavioral Therapies, and Recovery Support Services; and 3) list two reasons to integrate treatment of substance use disorders and general healthcare.

**PLEASE REFER TO  
THIS GUIDE WHEN  
MAKING YOUR  
SESSION SELECTIONS**

Each session is identified by a five- or six-digit session number.

**EXAMPLE**

Session 72105 is a:

- A. Short Course
- B. On Monday
- C. In the Morning

**SESSION TYPE**

- A. FIRST DIGIT
  - 1 =Plenary Sessions
  - 3 =Symposia
  - 4 =AM Brown Bag Sessions
  - 5 =PM Brown Bag Sessions
  - 6 =Meet the Expert Session
  - 7 =Short Courses
  - 19 = Sunday AACC University Sessions

**SESSION DAY**

- B. SECOND DIGIT
  - 1 = Sunday
  - 2 = Monday
  - 3 = Tuesday
  - 4 = Wednesday
  - 5 = Thursday

**SESSION TIME**

- C. THIRD DIGIT
  - 1 = am
  - 2 = pm
  - 4 = Mid-day

The last two digits are AACC internal numbers.

MEET THE EXPERT 10:30AM - 11:30AM

**Modern, Effective Care for Substance Use Disorders: Findings from the 2016 Surgeon General's Facing Addiction Report**

65101

San Diego Convention Center - 29D

Level: Basic  
CE Credit: 1

MODERATOR

**#Ann Gronowski, PhD, DABCC, FACB**  
*Washington University School of Medicine, St. Louis, MO*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, toxicologists, laboratory technologists, and IVD industry scientists.

**SESSION OVERVIEW:** This session provides an excellent opportunity for a limited number of attendees to meet with Dr. A. Thomas McLellan, Retired Deputy Director of Office of National Drug Control Policy and Founder & Chairman Treatment Research Institute. Dr. McLellan was the principal developer of the Addiction Severity Index (ASI) and the Treatment Services Review (TSR), widely used substance abuse instruments. Dr. McLellan will discuss the 2016 Surgeon General's Report entitled "Facing Addiction in the United States," and strategies to combat the addiction epidemic.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) explain two major brain circuits/systems disrupted in the course of addiction; 2) cite one example from each of the three components of effective addiction treatment: Medications, Behavioral Therapies, and Recovery Support Services; and 3) list two reasons to integrate treatment of substance use disorders and general healthcare.

**SPEAKER**

**Modern, Effective Care for Substance Use Disorders: Findings from the 2016 Surgeon General's Facing Addiction Report**

\*A. Thomas McLellan, PhD  
*Treatment Research Institute, Philadelphia, PA*

SYMPOSIA 10:30AM - NOON

**The Burden of Proof for Point-of-Care Glucose Monitoring in Critically Ill Patients**

35103

San Diego Convention Center - 32AB

Level: Intermediate  
CE Credit: 1.5\*

MODERATOR

**#Steven Cotten, PhD, DABCC**  
*The Ohio State University Wexner Medical Center, Columbus, OH*

\* Credits for this session are pending. Attendees should check the mobile app or [www.aacc.org/2017AM](http://www.aacc.org/2017AM) for updates.

**INTENDED AUDIENCE:** POC coordinators, pathologists, laboratory directors, clinical chemists, technologists, and IVD industry scientists.

**SESSION OVERVIEW:** This session will explore the use of point-of-care (POC) glucose measurements in populations that may contain critically ill patients. The audience will be asked to decide who has the "burden of proof" for defining critically ill populations: regulatory agencies, device manufacturers, or healthcare institutions. Speakers will cover the current clinical indications and regulatory issues from the laboratory and IVD manufacturer perspective. Following the lectures, audience members will divide into groups based on who should assume the burden of proof and justify their choice to session participants.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) identify the clinical utility and analytical challenges of point of care glucose testing in hospitalized adult and pediatric patients; 2) define current regulatory requirements related to point of care glucose in the hospital setting; 3) describe the challenges for IVD companies in meeting both clinical and regulatory requirements for POC glucose testing platforms; and 4) discuss different strategies for implementing a POC glucose testing program in critically ill patients.

**SPEAKERS**

**Clinical Indications and Analytical Challenges of Point-of-Care Glucose Testing in Hospitalized Patients**

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

**Regulatory Updates, Intended Use and Approval for POC Glucose Devices**

\*James Nichols, PhD, DABCC, FACB  
*Vanderbilt University Medical Center, Nashville, TN*

**Intended Use Statements and Clinical Trial Study Design: An IVD Manufacturer Perspective**

\*Corinne Fantz, PhD, DABCC  
*Roche Diagnostic Corp, Indianapolis, IN*

**Are you B.R.A.V.E.? Critically Ill Exclusion Criteria for POC Glucose at an Academic Medical Center**

\*Steven Cotten, PhD, DABCC  
*Ohio State University Wexner Medical Center, Columbus, OH*

## SYMPOSIA 10:30AM - NOON

**Global Issues Regarding High Sensitivity Cardiac Troponin Assays: Shifting Strategies to Early Rule Out of Myocardial Injury and Defining Appropriate Cutoffs for Outcomes Assessment**

35104

San Diego Convention Center - 30ABC

Level: Advanced

CE Credit: 1.5

## MODERATOR

\*Fred Apple, PhD, DABCC

Hennepin County Medical Center,  
Minneapolis, MN

*Developed in cooperation with American College of Cardiology, Society of Academic Emergency Medicine, Clinical Collaborations Society Committee*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, technologists, IVD industry scientists, and regulatory experts.

**SESSION OVERVIEW:** This session will address high-sensitivity cardiac troponin assays (hs-cTnI, hs-cTnT) for a) the early rule out of myocardial injury and b) defining appropriate population cutoffs for outcome risk assessment of adverse events. Evidence-based strategies and test utilization will be emphasized.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) explain how clinical cutoffs for cTn are defined and recognize the need for sex-defined 99th percentile values with hs-cTn assay implementation; 2) understand that cTn is a biomarker used to detect myocardial injury; 3) apply clinical and laboratory strategies using hs-cTn assays that will improve the ability for an early rule out of myocardial injury and discharge; and 4) define a framework for establishing hs-cTn assays into laboratories for clinical use through clinical partnership and appropriate test utilization, with the goal of improving patient outcomes.

## SPEAKERS

**Clinical Chemist: Analytical Issues and Guidelines for Cardiac Biomarkers**

\*Fred Apple, PhD, DABCC

Hennepin County Medical Center, Minneapolis, MN

**Emergency Medicine: Clinical Use of Cardiac Biomarkers in Emergency Department**

\*Judd Hollander, MD

Thomas Jefferson University, Philadelphia, PA

**Cardiology: Clinical Use of Cardiac Biomarkers for In-Patient and Out-Patient Management**

\*Allan Jaffe, MD

Mayo Clinic, Rochester, MN



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SYMPOSIA 10:30AM - NOON

**At the Juncture of Pain Management and Addiction**

35106

San Diego Convention Center - 30DE

Level: Basic

CE Credit: 1.5

MODERATOR

**#Bridgit Crews, PhD, DABCC**

*University of California, Irvine, Orange, CA*

**INTENDED AUDIENCE:** Laboratory scientists, managers, directors, administration, and clinicians.

**SESSION OVERVIEW:** Alleviation of pain with opioids presents risks for addiction. Urine drug testing may be used to assess and monitor patients, but interpretation of results is not always straightforward. Most patients are managed by primary care physicians; however, those that are at high risk require management by specialists in pain management and addiction. This session will focus on the physician perspective regarding clinical decision making with opioids and the laboratorian's role as clinical consultant. The session will be case-based and involve audience participation through cellular devices.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) list the benefits and risks for patients treated with opioids; 2) describe the clinical decisions that are made when patients are treated with opioids; 3) describe methods used for urine drug testing; and 4) describe examples of urine drug testing results that may be misinterpreted.

**SPEAKERS**

**Clinical Decision Making with Chronic Opioid Therapy**

**#Gregory Polston, MD**

*University of California San Diego, La Jolla, CA*

**Laboratorian's Role in Pain Medication Monitoring**

**#Bridgit Crews, PhD, DABCC**

*University of California, Irvine, Orange, CA*

## SHORT COURSE 10:30AM - NOON

**Introduction to Translational and Clinical Metabolomics for Personalized Medicine**

75102

San Diego Convention Center - 33AB

Level: Basic

CE Credit: 1.5

## MODERATOR

#Timothy Garrett, PhD

*University of Florida, Gainesville, FL*

**INTENDED AUDIENCE:** Pathologists, laboratory directors, clinical chemists, clinical toxicologists, analytical chemists, clinical laboratory scientists, technologists, and IVD industry scientists.

**SESSION OVERVIEW:** The metabolome is a sum of all primary and secondary metabolites in a biological sample, which change as a function of health, time, and disease. They include endogenous and exogenous metabolites as a result of exposure to drugs, plants, and environment. Metabolomics is the analytical measurement of these metabolites. These measurements reflect the status of health, nutrition, infection and diseases. A key aspect of metabolomics is the utilization of state-of-the-art mass spectrometric approaches to detect and identify metabolites in biological fluids and tissues. While these technologies are extremely powerful to translational and clinical investigations, they also have a steep learning curve. This session will help define what is needed to overcome this barrier.

**EXPECTED OUTCOMES:** After this session, participants will be able to: 1) explain the application of high resolution mass spectrometry approaches to metabolomics; 2) recognize the current state of clinical metabolomics; and 3) utilize bioinformatics tools for interpreting data from metabolomic studies.

## SPEAKERS

**Advancing Informatics to Make Metabolomics Easier**

#Gary Patti, PhD

*Washington University in St. Louis, St. Louis, MO***Overview of Metabolomics in Translational and Clinical Studies**

#Timothy Garrett, PhD

*University of Florida, Gainesville, FL***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 by some people as a real or potential 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.

# AACC BOOTH, MEMBER LOUNGE & STORE

## AACC BOOTH

Stop by and visit booth #3539 to learn how AACC is at the forefront of new approaches in laboratory medicine and how AACC is addressing the complexity of an evolving healthcare landscape and promoting new thinking and new skills.

## NEW! AACC MEMBER LOUNGE

AACC members are welcome to stop by the Member Lounge located at the AACC booth #3539 on the Expo show floor. This member only benefit provides a place to recharge between sessions, mingle with colleagues, and participate in fun daily activities.

### AACC Booth/Member Lounge Hours

Tuesday, Wednesday	9:30am - 5:00pm
Thursday	9:30am - 1:00pm

## AACC STORE

Plan to visit the AACC store to examine some of AACC's new titles that have been released since last year's meeting and all the other bestsellers. AACC merchandise is available for purchase including t-shirts, AACC wearables, and gifts.

### AACC Store Hours

Monday - Wednesday	9:00am - 5:00pm
Thursday	9:00am - 1:00pm



STOP BY AND  
VISIT THE AACC  
BOOTH #3539

# AACC access PROGRAM

## HELP THE NEXT GENERATION OF LABORATORY MEDICINE SCIENTISTS

AACC's access Program is a way for you to give back to the clinical chemistry profession. Through programs such as the International Travel Grant and SYCL Travel Grant, emerging laboratory scientists are supported and encouraged to contribute to excellence in the profession. These grants bring laboratorians 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.

As one past international travel grantee describes her experience:

“It was a great challenge for my future development as a laboratory specialist to visit this meeting. I acquired new ideas for diagnostics, learned new basic guidelines for quality assurance in the laboratory and created friendships with many colleagues.”

– Dr. Rozaliya Todorova

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

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*How do I get ACCENT® credit for Poster Sessions?*

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Check the mobile app or go to [www.aacc.org/AMcredits17](http://www.aacc.org/AMcredits17) and follow the instructions to obtain your Certificate of Attendance. You will need your badge number located on your badge.

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