



Better health through
laboratory medicine.

71ST AACC ANNUAL

SCIENTIFIC MEETING

& CLINICAL LAB EXPO

REGISTER BY JUNE 20 AND SAVE



AUGUST 4–8, 2019

ANAHEIM, CA USA

www.2019aacc.org

2019 SESSION DESCRIPTIONS

Each session depicts relevant content levels as Basic, Intermediate or Advanced:

BASIC: For participants who lack previous training or experience in the subject or whose experience is minimal.

INTERMEDIATE: For those with knowledge of the basic theory of the topic, and prior training and education.

ADVANCED: For attendees with specialized content and working knowledge of current theory and practice who want to refine their skills or learn about new principles and techniques.

All session levels are open to all conference registrants.

AACC UNIVERSITY



The Conference before the Conference Sunday, August 4, 2019

Registration fees apply for each course. General conference registration is waived for Sunday only.

The theme for AACC University is "Basics and Beyond." If you don't have the time or budget to attend the full conference, AACC University includes 15 courses that you can attend without paying the full registration fee. **BONUS:** If you take a course on Sunday, you are invited to attend the special session (page 9), Sunday plenary session and the AACC Opening Mixer & Division Networking Event.

AACC University Times

SUNDAY

Morning 8:30am–11:30am
Afternoon 12:15pm–3:15pm
Full Day 8:30am–11:30am and
12:30pm–3:15pm

PLENARY SESSIONS

Designed for all levels, the plenary sessions feature renowned speakers in clinical practice, research, business and policy who are visionaries on the future of healthcare.

Plenary Session Times

SUNDAY

Late Afternoon 5:00pm–6:30pm

MONDAY–THURSDAY

Morning 8:45am–10:15am

SCIENTIFIC SESSIONS

Scientific sessions are presented by experts actively involved in the field covering an array of topics in lab medicine and diagnostics. Sessions will be held in either 1.5-, 2- or 2.5-hour increments.

Scientific Session Times

MONDAY

Morning 10:30am–12:00pm
Mid-Day 12:30pm–2:00pm
Afternoon 2:15pm–4:15pm

TUESDAY, WEDNESDAY

Morning 10:30am–12:00pm
Afternoon 2:30pm–5:00pm

THURSDAY

Morning 10:30am–12:00pm

ROUNDTABLE SESSIONS

*Attendance limited to 10 participants per session.
Advance registration and fees are required to register.*



These small discussion settings provide intimate exchanges between participants and experts. Expect lively discussion, dialogue and debate, as well as Q&As. Roundtable Sessions are presented twice daily. **PLEASE NOTE:** No meals are provided; please purchase food in the Convention Center.

Roundtable Session Times

MONDAY–WEDNESDAY

Morning (40000 Series) 7:30am–8:30am
Afternoon (50000 Series) 12:30pm–1:30pm
Fee: \$25

2019 SESSION DESCRIPTIONS

MEET THE EXPERT SESSIONS

Attendance limited to 75 participants per session. Seating is first come, first served.

These sessions are intense, interactive discussions with plenary speakers.

Meet the Expert Session Times

MONDAY-THURSDAY

Morning 10:30am–11:30am

PRESIDENT'S INVITED SESSION

The AACC President has created this special session of particular importance to AACC Annual Scientific Meeting attendees. This year's presentation is "Beyond the Clinical Laboratory Director: Careers for Clinical Chemists." Details on page 14.

CHAIR'S INVITED SESSION

The chair of the 2019 Annual Meeting Organizing Committee (AMOC) created this special session of particular importance to AACC Annual Scientific Meeting attendees. This year's presentation is "Race, Genomics and Medicine." Details on page 16.

ORAL ABSTRACT PRESENTATIONS

Selected abstracts identified by the AMOC will be presented. Presenters will give oral presentations and present posters during the poster sessions. More information on these presentations will be available online in June. Check www.2019aacc.org for more details.

SPECIAL SESSIONS

SUNDAY, AUGUST 4

Consumer Genomics, Direct-to-Consumer Genetic Testing, and Patient Empowerment

During this session, two well-renowned experts in the field of consumer genomics and direct-to-consumer genetic testing will discuss the nuances between the different types of tests, regulatory aspects, clinical validity and utility, and how consumer genetic testing fits into medical care. Details on page 9.

MONDAY, AUGUST 5

Disruptive Technology Award Competition

The Disruptive Technology Award Competition searches for the next innovative testing solution that will improve patient care through diagnostic performance or access to high-quality testing. Three finalists will present brief lectures showing the detailed data supporting the performance of their novel development. Following the presentations, there will be a Q&A session between the judges and presenters whereby they will be scored, and a winner will be announced at the close of the event. Details on page 16.

WEDNESDAY, AUGUST 7

Laboratory Feud: Science and Practice Core Committee vs. Education Core Committee

This session will use the "Family Feud" game show-style format in which two teams (five members of the AACC Science and Practice Core Committee vs. five members of the Education Core Committee) will compete in an educational challenge covering various laboratory medicine topics. Details on page 31.

REGISTRATION FEES & DEADLINES

Conference Registration	Early Bird Price received by June 20	Advance/Onsite Price received after June 20
AACC Member (Professional, Affiliate and Transitional Members)	\$615	\$750
Non-Member*	\$895	\$1,150
AACC Trainee Member	\$195	\$200
Trainee/Student Non-Member**	\$234	\$239
AACC Emeritus Member	\$195	\$210
Daily Registration (Sunday only—includes entrance to plenary session, special session and Opening Mixer)	\$0	\$0
Daily Registration (Monday–Thursday)	\$470	\$540
Guest/Spouse	\$195	\$210
AACC University Full-Day Course		
Member	\$289	\$299
Non-Member	\$319	\$339
AACC University Half-Day Course (Morning or Afternoon)		
Member	\$149	\$189
Non-Member	\$199	\$229
Roundtable Sessions		
Member	\$25	\$25
Non-Member	\$25	\$25
Expo Only	\$40	\$65

*Save at least \$280 on your registration fee by becoming an AACC member today. To receive your discount, join when you register.

**Includes a 1-year AACC Trainee Membership. Proof of current full-time student/trainee status required.

If your primary role is a non-doctoral Clinical Laboratory Scientist (CLS) professional (holding CPP, MLS, MT or similar credentials), you will receive \$100 off your full conference or daily (Monday–Thursday) registration.

REGISTRATION TYPES & EVENTS

Registration Type		Full Conference	Guest/ Spouse	Daily	Expo Only	Exhibitor	No Registration
EVENTS		• AACC Member • Non-Member • Trainee/Student Member • Emeritus Member	Limit 1 per full conference registrant	Admission/ tickets for day registered only	Exhibit Hall access		
Plenary Sessions 10000 Series		✓	✓	✓	X	✓	X
Scientific Sessions 30000 Series		✓	✓	✓	X	✓	X
Meet the Experts 60000 Series		✓	✓	✓	X	✓	X
AACC University 190000 Series		\$		\$		\$	
Roundtable Sessions 40000 Series morning 50000 Series afternoon		\$		\$		\$	
Poster Sessions Abstracts		✓	✓	✓	X	✓	X
Special Events		\$	\$	\$	\$	\$	\$
AACC Opening Mixer & Division Networking Event Sunday, August 4		✓	✓	✓	X	✓	X
Clinical Lab Expo Exhibit Hall, August 6–8		✓	✓	✓	✓	✓	X
Industry Presentations (Hotel and Expo Floor)		✓	✓	✓	✓	✓	X

✓ Included with registration type  Ticket required \$ May purchase ticket

 NOT eligible to purchase ticket X May NOT attend

SUNDAY

AUGUST 4

PLENARY & SCIENTIFIC SESSIONS

	PLENARY SESSION
	Biomarker Discovery: From Technology Development to Clinical Applications
	2019 Wallace H. Coulter Lectureship Award
	5:00pm–6:30pm David R. Walt, PhD Hansjörg Wyss Professor, HHMI Professor, Harvard Medical School, Department of Pathology, Core Faculty—Wyss Institute for Bioinspired Engineering at Harvard University, Cambridge, MA In this session, Dr. Walt will describe how biomarker discovery is performed today and will discuss how we can compress the timeframe from discovery to clinical impact. He will draw upon his experiences in translating research from an academic lab to the commercial sector. Some successful examples of how novel technologies have found their way to the clinic will be described.

BASIC
11001



MORNING HALF DAY

8:30am–11:30am

BASIC
191002

Prenanalytical Variations: Basics and Beyond

The most frequent occurrences of laboratory errors occur in the preanalytical phase. This session will review the basics of the preanalytical phase, discuss approaches to improve quality in the preanalytical phase, and provide guidance for overcoming various preanalytical challenges. In addition, this course will also provide a series of interactive case presentations of some of the most common preanalytical errors in the clinical setting.

8:30am–11:30am

BASIC
191003

Hemoglobin Electrophoresis

Developed in cooperation with Hematology and Coagulation Division

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

8:30am–11:30am

INTERMEDIATE
191004

The Laboratory Test Life Cycle: Using CLSI Guidelines to Meet FDA, CLIA and ISO Requirements

Developed in cooperation with CLSI

This session will examine how quality can be ensured through establishment, validation, and verification of performance specifications for laboratory developed tests (LDTs). The test life cycle, related concepts, and definitions will be introduced. For each step in the test life cycle, speakers will discuss the FDA, CLIA, and ISO requirements. A specific LDT example will be provided to demonstrate how the CLSI documents can be used to meet the regulatory requirements.

8:30am–11:30am

BASIC
191005

Rise and Shine! The Essential Elements of a Point-of-Care Testing Boot Camp (Part 1)

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

This session will focus on important elements of procedure writing, including process mapping as well as training and competency assessments of testing personnel. The importance of building clinical partnerships for successful point-of-care testing delivery will be incorporated. Lectures will include audience response (polls) and a breakout session will add hands-on table exercises. (See Part 2 for focus areas in the afternoon bootcamp session.)

AFTERNOON HALF DAY

12:15pm–3:15pm

BASIC
192007

Afternoon Reveille! Continuing the Essential Elements of a Point-of-Care Testing Boot Camp (Part 2)

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

This session will focus on important elements of integrating quality management into point-of-care testing (POCT), creating strong multidisciplinary team communications and integrating POCT connectivity. The importance of building clinical partnerships for successful POCT delivery will be incorporated. Lectures will include audience response (polls), and a breakout session will add hands-on table exercises. (See Part 1 for focus areas in the morning boot camp session.)

12:15pm–3:15pm

INTERMEDIATE
192008

AACC/IFCC Clinical Laboratory Practice Recommendations for Use of High-Sensitivity Cardiac Troponin Assays: Real Laboratory and Clinical Experience in the USA

Evidence-based presentations with case studies, with interactive audience participation, will be presented to communicate and discuss practical implementation and experience with high-sensitivity cardiac troponin (hs-cTnI, hs-cTnT) assays. The session will cover the role of the central lab and point-of-care testing in the early rule-out/rule-in of myocardial infarction, risk assessment, and primary prevention in clinical practice. The AACC/IFCC clinical laboratory practice guidelines for defining quality control, normality and gender-specific 99th percentile upper reference limits will be addressed.



AFTERNOON HALF DAY

12:15pm–3:15pm

BASIC
192009

Maximizing the Impact and Value of Laboratory Automation: Lessons Learned from Clinical Chemistry and Microbiology

Automation has the potential to improve laboratory accuracy, efficiency and throughput. Total laboratory automation is widely used in clinical chemistry laboratories, and instrumentation to automate culture-based testing is now available and is being implemented in microbiology laboratories. This multi-disciplinary session for AACC University will bring together laboratory medicine professionals from chemistry and microbiology to discuss total laboratory automation, including validation, implementation, and clinical impact.

12:15pm–3:15pm

ADVANCED
192010

Multiple Myeloma Diagnostics: Interpretation and Reporting of Protein Electrophoresis and Serum Free Light Chains

Developed in cooperation with Clinical and Diagnostic Immunology Division

This session will provide an interactive series of myeloma cases that include serum protein electrophoresis, immunofixation and serum free light chains. Attendees will be provided standardized approaches, examples, and advice on how to interpret and report these results, with a focus on the subtleties of effectively communicating relevant laboratory findings. Laboratory testing and discussion will include capillary electrophoresis and agarose gels. Case examples will include the clinical history and context as well as challenging interpretative aspects, such as monoclonal proteins that migrate in the alpha and beta region as well as samples with interferences from monoclonal therapeutic agents.

12:15pm–3:15pm

INTERMEDIATE
192011

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

This session will discuss the process of selecting and evaluating clinical laboratory methods. Attendees will develop an understanding of the correct approach to this key clinical laboratory task. This course uses a series of examples taken from the clinical laboratory evaluation process to focus attention on the critical aspects of method validations. This session emphasizes protocols that are essential for validation of FDA approved methods and instruments.

FULL DAY

8:30am–3:15pm

BASIC
193012

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

This session aims to assist clinical laboratories interested in implementing mass spectrometry. It will cover the fundamentals of liquid chromatography and tandem mass spectrometry. There will be a discussion of sample preparation techniques, considerations for method development, validation, post-implementation monitoring, and troubleshooting.

8:30am–3:15pm

BASIC
193013

How to Truly “Excel” at Data Analysis and Visualization: An Introduction to the R Programming Language

Analyzing data is a key element of effective laboratory practice and quality improvement activities. Outside of simple descriptive statistics and standard plots, data analyses in spreadsheets can be time-consuming and error-prone. R is a free statistical programming language that supports the complex data manipulation and analysis activities needed for efficient clinical laboratory practice. This session will introduce basic concepts of R programming and discuss overall best practices in working with large laboratory data sets.

8:30am–3:15pm

BASIC
193014

Pathology and Clinical Laboratory Informatics Boot Camp

Developed in cooperation with Informatics Division

Informatics is best described as delivering the right information to the right person, at the right place and time, and in the right way. Unfortunately, most laboratory professionals haven't had formal training in informatics, even though they utilize its tools every day. This session serves as an informatics boot camp, providing participants the basics needed to understand and navigate this rapidly evolving field. Topics include LIS, EHR, and middleware; information system selection and life cycle; IT data governance; cybersecurity and information assurance; data extraction and analytics; and artificial intelligence and machine learning.



FULL DAY

8:30am–3:15pm

BASIC
193015

Clinical Laboratory Genomics: Practical NGS for Laboratorians

Developed in cooperation with Molecular Pathology Division

Genetic testing using next-generation sequencing is advancing precision medicine. This session will describe key aspects of quality control, quality assurance, and regulatory considerations for NGS, the relative advantages and limitations of targeted versus comprehensive NGS tests, and NGS data analysis and particularly variant interpretation in the diagnosis of hereditary disorders. The speakers will use interactive case studies to emphasize the essential components of each topic.

8:30am–3:15pm

INTERMEDIATE
193016

Clinical Laboratory Leadership Essentials for the 21st Century

An essential component to leadership is relationship building, and good leadership is a learnable skill. Many people find themselves in leadership positions or aspiring to become leaders in laboratory medicine despite very little training on how to be an effective leader. This session attempts to fill in this apparent gap through discussion of leadership effectiveness and self-management as well as management of workplace relationships, including conflict resolution and leading teams.

8:30am–3:15pm

INTERMEDIATE
193017

Getting Started with R for Laboratory Medicine

This hands-on course will teach the basics of interaction with the R statistical programming language through the RStudio interface with a goal of providing attendees the ability to perform the core statistical analyses and data visualization required for laboratory medicine clinical practice. Attendees will use R and RStudio on their personal laptops to participate in this interactive session.

SPECIAL SESSION

3:30pm–4:30pm

INTERMEDIATE
11002

Consumer Genomics, Direct-to-Consumer Genetic Testing, and Patient Empowerment

MODERATOR: Cathy Wurzer, Minnesota Public Radio, Saint Paul, MN

Consumer-initiated genetic testing is experiencing exponential growth with many new applications in the areas of health, wellness, and entertainment. However, while the uptake of these tests is high, the limitations of consumer genetic testing may not be well-understood by most consumers. During this session, two well-renowned experts in the field will discuss nuances between the different types of tests, regulatory aspects, clinical validity and utility, and how consumer genetic testing fits into medical care.

Consumer Genomics in 2019

Jill Hagenkord, MD, Color Genomics, Burlingame, CA

DTC Genetic Testing and Patient Care: Hype, Harm and Hope

Theodora Ross, MD, PhD, UT Southwestern Medical Center, Dallas, TX

MONDAY

AUGUST 5

PLENARY & SCIENTIFIC SESSIONS



PLENARY SESSION

Translating Genes, Brain and Behavior: A Next-Generation Human Framework

8:45am–10:15am

BASIC
12001

Julie Korenberg, MD, PhD

Director, Center for Integrated Neuroscience and Human Behavior, University of Utah, Salt Lake City, UT

Peering into the brain's black-box for how we think/feel/communicate reveals neural circuitry as a common language that yokes the power of human genetics to its influences in development and disease, on brain architecture and behavior. Uncommon partial aneuploidies (Williams and Down syndromes) provide genes influencing human cognition/social-emotional behavior, and these unexpectedly implicate primate hypothalamic circuitry. The trail leads, via neural imaging, to dysregulated hormones, a perturbed transcription factor (neuronal development), and an unknown tract spanning the brain limbic system. This is the next era of brain diagnostics and therapeutics in which new gene-disease associations are rapidly translated to brain circuitry.



ROUNDTABLE SESSIONS

7:30am–8:30am (40000 Series) or 12:30pm–1:30pm (50000 Series)

Promoting Laboratory Medicine to the Public: The Time to Act Is Now! BASIC

42101 or 52201

SPEAKER: ALAN WU, PhD, University of California at San Francisco, San Francisco, CA

Interferences with Thyroid Function Tests: Where Do We Stand? INTERMEDIATE

42102 or 52202

SPEAKER: Damien Gruson, PhD, Cliniques Universitaires St-Luc, Kraainem, Belgium

How Statistics Influence Our Clinical Decisions BASIC

Developed in cooperation with Management Sciences and Patient Safety Division 42103 or 52203

SPEAKER: Oswald Sonntag, PhD, Sonntag, Eichenau, Germany

How People Try to Beat Drug Testing and Defend Positive Results BASIC

42104 or 52204

SPEAKER: Amitava Dasgupta, PhD, DABCC, University of Texas–Houston Medical School, Houston, TX

Measuring Scientific Impact with the H-Index BASIC

SPEAKER: William Schreiber, MD, Lifelabs, Burnaby, Canada 42107 or 52207

Hemoglobinopathies: Techniques and Interpretation INTERMEDIATE

42108 or 52208

SPEAKER: Sean Campbell, PhD, Montefiore Medical Center, Bronx, NY

Six Sigma and Your Lab Quality Management System—Have You Incorporated It Yet? BASIC

42109 or 52209

SPEAKER: Laura Smy, PhD, MLS, University of Utah / ARUP Laboratories, Salt Lake City, UT

Thrombotic Disorders in the Pediatric Population: Current Issues in Diagnosis and Management BASIC

42110 or 52210

SPEAKER: Olajumoke Oladipo, MD, DABCC, FAACC, Penn State Milton S. Hershey Medical Center, Hershey, PA

The Impact of the NGSP on HbA1c Measurement in the Clinical Laboratory INTERMEDIATE

42111 or 52211

SPEAKER: Randie Little, PhD, University of Missouri at Columbia, Columbia, MO

Follow-Up of Positive Newborn Screen Positive Results for Metabolic Disorders BASIC

42112 or 52212

Developed in cooperation with Pediatric and Maternal-Fetal Division

SPEAKER: Uttam Garg, PhD, DABCC, FAACC, FABFT, Children's Mercy Hospital, Kansas City, MO

Biotin Interferences and Strategies for Mitigating Interference in Immunoassays BASIC

42114 or 52214

SPEAKER: Jieli Li, MD, PhD, MD Anderson Cancer Center, Houston, TX

Utility of Procalcitonin Measurement: Current Evidence and Clinical Utility in Pediatric and Adult Populations BASIC

42115 or 52215

SPEAKER: Jayson Pagaduan, PhD, Texas Children's Hospital, Houston, TX

The CDC Lipids Standardization Programs—Ensuring the Quality of Cardiovascular Disease Biomarker Measurements INTERMEDIATE

42116 or 52216

SPEAKER: Uliana Danilenko, PhD, Centers for Disease Control and Prevention, Atlanta, GA

Advances in Laboratory Testing for the Diagnosis and Management of Syphilis INTERMEDIATE

42118 or 52218

SPEAKER: Mahesheema Ali, MSc, PhD, Upstate Medical Hospital, Manlius, NY

Intraoperative Parathyroid Hormone Testing BASIC

42119 or 52219

SPEAKER: Xander Van Wijk, PhD, DABCC, The University of Chicago Medicine & Biological Sciences, Chicago, IL

Clinical Laboratory Management of Dyslipidemia in Children and Adolescents: Standing Plasma Test to Genetic Testing BASIC

42120 or 52220

SPEAKER: Mustafa Barbhuiya, PhD, (MB) (ASCPi)CM, Penn State University College of Medicine, Hershey, PA

Control Your Competencies: Transitioning from Paper to an Electronic System for Personnel Competencies BASIC

42121 or 52221

SPEAKER: Van Leung-Pineda, PhD, DABCC, Children's Healthcare of Atlanta, Atlanta, GA



ROUNDTABLE SESSIONS

7:30am–8:30am (40000 Series) or 12:30pm–1:30pm (50000 Series)

Detecting Alzheimer's Disease with Biofluid Biomarkers: Innovations and a Research Framework That Inform Clinical Practice

SPEAKER: Danni Li, PhD, DABCC, University of Minnesota, Minneapolis, MN

INTERMEDIATE

42122 or 52222

Implementing Blood Gas Instrumentation with Intelligent Quality Management

SPEAKER: Yachana Kataria, PhD, DABCC, Boston Medical Center, Boston, MA

BASIC

42123 or 52223

Laboratory Strategies for Mitigating Pre-Analytical Errors

SPEAKER: Qing Meng, MD, PhD, DABCC, FAACC, University of Texas/MD Anderson Cancer Center, Houston, TX

INTERMEDIATE

42124 or 52224

Pearls and Pitfalls of Estradiol and Testosterone Testing

SPEAKER: Amy Pyle-Eilola, PhD, Nationwide Children's Hospital, Columbus, OH

INTERMEDIATE

42125 or 52225

Pharmacogenomics and Precision Medicine: Approaches and Outcomes to Transferring Pharmacogenomics Findings into the Clinics

SPEAKER: Carmen Gherasim, PhD, University of Michigan, Ann Arbor, MI

INTERMEDIATE

42126 or 52226

To Quant or Not to Quant? Limitations of Quantifying Low Concentration Monoclonal Proteins by Serum Protein Electrophoresis

SPEAKER: Katherine Turner, PhD, Mayo Clinic, Rochester, MN

INTERMEDIATE

42127 or 52227

MONDAY | AUGUST 5

MEET THE EXPERT

10:30am–11:30am

Biomarker Discovery: From Technology Development to Clinical Applications

BASIC
62101

SPEAKER: David R. Walt, PhD, Hansjörg Wyss Professor, HHMI Professor, Harvard Medical School, Department of Pathology, Core Faculty—Wyss Institute for Bioinspired Engineering at Harvard University, Cambridge, MA

This session will provide an excellent opportunity for attendees to meet with Dr. Walt in a more intimate setting and listen to him discuss his talk, “Biomarker Discovery: From Technology Development to Clinical Applications.”

Translating Genes, Brain and Behavior: A Next-Generation Human Framework

BASIC
62102

SPEAKER: Julie Korenberg, MD, PhD, Director, Center for Integrated Neuroscience and Human Behavior, University of Utah, Salt Lake City, UT

This session will provide an excellent opportunity for attendees to meet with Dr. Korenberg in a more intimate setting and listen to her discuss her talk, “Translating Genes, Brain and Behavior: A Next-Generation Human Framework.”

MONDAY | AUGUST 5

SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm

BASIC
32101

Ethical Issues in Laboratory Medicine

Developed in cooperation with Management Sciences and Patient Safety Division

Ethical issues in laboratory medicine have been given limited attention by professionals in laboratory medicine. The first talk in this session will describe the basics of biomedical ethics, along with a review of the history of biomedical ethics and the core principles of modern biomedical ethics, including autonomy, beneficence (non-maleficence) and justice. The second session will examine the ethics of emerging infections and the clinical laboratory in light of those core principles. Both sessions will use interactive case studies to illustrate their points.

10:30am–12:00pm

INTERMEDIATE
32102

The Quest for Laboratory Quality through Competency Assessment

Regardless of the simplicity of laboratory tests, errors can occur if not performed correctly, leading to significant patient harm. Competency assessment is a focused approach to achieve confirmation that personnel training is effective. In addition, established procedures produce quality results. All testing personnel, including nursing staff and physician providers, are required to be assessed for competency. This session will discuss regulatory requirements associated with competency. Further, strategies focused on the design and integration of competency assessment programs into the laboratory's quality management plan will be discussed.

10:30am–12:00pm

INTERMEDIATE
32104

Clinical Utilization of D-Dimer Testing: Practical Guidance to Reduce Unnecessary Imaging Procedures While Improving Patient Care and Optimizing Healthcare Resources

Developed in cooperation with Hematology and Coagulation Division

Pathological blood clots, known as venous thromboembolism, include both deep venous thrombosis (DVT) and pulmonary embolism (PE). These are life-threatening conditions which require rapid actions for proper diagnosis and treatment. Clinical guidelines recommend the use of pretest probability scoring along with high-sensitivity D-dimer laboratory assays to screen for DVT and PE in patients presenting to the emergency room. This session will address institutional experiences and translational clinical research studies to fill knowledge gaps and provide actionable findings.

SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm

INTERMEDIATE

32105

Universal Non-Targeted HCV Screening and Linkage to Care: Emergency Department and Laboratory Perspectives on Design, Implementation, and Results

This session will discuss the value of implementing a non-targeted hepatitis C virus (HCV) screening program, with direct linkage-to-care, within a large academic medical center. A multi-disciplinary approach to HCV screening will be described to demonstrate its effectiveness in designing, developing, implementing, measuring clinical success, and improving patient outcomes. Laboratory data and its impact on clinical care will be presented, with a focus on contemporary quality metrics.

10:30am–12:00pm

INTERMEDIATE

32106

Predicting and Diagnosing Gestational Diabetes Mellitus (GDM): Are We Making Progress?

Developed in cooperation with American Diabetes Association

Glucose intolerance with onset or first recognition of pregnancy is termed gestational diabetes mellitus (GDM). Both the fetus and mother develop complications, which are reduced by therapy. Nevertheless, there is controversy surrounding the optimal screening and diagnostic strategies for GDM. Both the screening and diagnostic criteria vary among countries and between obstetric and diabetes organizations in a single country. In addition, there has been substantial interest over the last few years in earlier detection of GDM (i.e., before the current evaluation at 24–28 weeks of gestation). This session will review screening and diagnostic approaches for GDM, including early prediction strategies.

10:30am–12:00pm

BASIC

32107

Data Science and AI in Laboratory Medicine: What You Should Know Now and Will Need to Know in the Future

As laboratorians, we report countless patient results. These data, in aggregate, can be leveraged to achieve operational and clinical goals. Much attention has been focused on the incorporation of machine learning and artificial intelligence (AI) into healthcare. But beyond analytics, realizing data-driven clinical goals requires clinical expertise and forward-looking data collection, storage, and access. This session will review the application of AI in laboratory medicine, drawing from the literature and speakers' experiences. We will also illustrate the data science process, applied to clinical data, comparing it to laboratory medicine practice, and will highlight the critical roles for laboratorians.

PRESIDENT'S INVITED SESSION

10:30am–12:00pm

BASIC

32108

Beyond the Clinical Laboratory Director: Careers for Clinical Chemists

This will be a panel discussion where each panelist will share his or her career experience outside of the traditional laboratory director. This will be followed by a moderated panel discussion where the participants' questions on how to explore other career opportunities in laboratory medicine will be answered.

MID-DAY

12:30pm–2:00pm

INTERMEDIATE

32431

Highlighting the Emerging Role of Anti-Müllerian Hormone (AMH) in Ovarian Reserve, Assisted Reproduction, Polycystic Ovary Syndrome (PCOS), and Other Diseases

Developed in cooperation with Endocrinology Division and Partnership for the Accurate Testing of Hormones (PATH)

This session will discuss the clinical utility of anti-Müllerian hormone (AMH) as an emerging biomarker for health status and certain diseases. In addition, challenges in AMH quantitation and current standardization efforts to improve the interpretation of results will be discussed.

12:30pm–2:00pm

BASIC

32432

Employee Engagement: It's More Than Simply a Commitment to Patient Care

Are you struggling with employee engagement and finally realizing it's not enough to just say, "We do it because of our commitment to patient care"? Employee engagement and positive workplace morale are products of linking your organizational mission to the specific and meaningful work laboratorians perform. During this session, we'll use laboratory case studies to discuss successful strategies for engaging and connecting laboratorians to the meaningful work they perform as part of the healthcare team.

SCIENTIFIC SESSIONS

MID-DAY

12:30pm–2:00pm

INTERMEDIATE
32433

Sepsis: Novel Biomarkers, New Technology, and Predictive Analytics

This session will highlight recent advances in our understanding and approach to the diagnosis and management of sepsis. Sepsis is the leading cause of in-hospital mortality, and is defined as life-threatening organ dysfunction caused by a deregulated host response to infection. There will be a specific focus on the pathophysiology and the utility of neutrophils as emerging biomarkers of sepsis. In addition, novel technologies and diagnostic approaches will be presented, including the use of predictive analytics in sepsis management.

12:30pm–2:00pm

BASIC
32434

Value-Added Partnerships between Clinical Laboratorians and Emergency Medicine Professionals to Improve Patient Care

This session will use case studies, debate and skit formats to illustrate the successful alignment of emergency department (ED) patient care goals with clinical laboratory medicine capabilities at one large academic medical center. Leadership from both departments have identified areas of improvement in care delivery models and have collaboratively developed innovative strategies to advance clinical excellence and outcome-based institutional goals. This interdepartmental leadership team will share their experiences in developing award-winning patient care models and will provide recommendations for successful implementation of process improvement projects between patient-facing and clinician-facing departments.

AFTERNOON

2:15pm–4:15pm

INTERMEDIATE
32216

Quantitative Proteomics in Clinical Care: Development, Deployment and Future Directions

Compared to small molecule assays, the barriers to implementing quantitative mass spectrometry (MS) protein assays are higher due to the nature of the analyte. Quantitative MS protein assays require digestion and/or immunopurification. The speakers will discuss the analytical challenges of quantitative protein analysis by mass spectrometry, and will discuss successfully deployed assays, highlighting the advantages, challenges, and future opportunities with this technology.

2:15pm–4:15pm

INTERMEDIATE
32217

Providing Rapid PTH Measurements During Parathyroid Surgery: Challenges, Clinical Utilization, and Future Needs

Rapid measurements of PTH during parathyroidectomies help guide removal of the appropriate amount of tissue. This need, coupled with the lack of suitable instrumentation, creates significant operational challenges for laboratories. Because PTH testing is not available on a handheld device, most PTH measurements are done on traditional chemistry testing platforms, with some located near the operating room. In this session, we will present our challenges in providing this service. In addition, an endocrine surgeon will present a video and cases that describe how physicians utilize laboratory and other tests to guide surgical removal of the appropriate amount of parathyroid tissue.

2:15pm–4:15pm

INTERMEDIATE
32218

Racing Against Time: Point-of-Care Testing in Mobile Health Settings

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

This session examines point-of-care testing (POCT) in mobile health settings. The session begins with a brief overview of mobile health, after which it delves into the details of supporting POCT in three specific programs: a stroke ambulance, paramedic vehicles and a hospital in the home service. The session concludes with a discussion of emerging technologies and their predicted impact on POCT in mobile settings.

SCIENTIFIC SESSIONS

AFTERNOON

2:15pm–4:15pm

INTERMEDIATE
32219

Biomarkers of Alzheimer's Disease: What's New in 2019?

Alzheimer's disease (AD) is a complex degenerative brain disease and the most common cause of dementia. Although no treatment is currently available, significant discovery efforts are underway. Diagnosis of AD is based on clinical features and supplemented by determination of biomarkers of AD pathology. During this session, an overview of AD will be provided, followed by discussion of diagnostic and management criteria. A review of the current CSF biomarkers and the future of plasma biomarkers will be presented. The session will close with a summary of the challenges and opportunities for AD biomarkers in clinical practice and laboratory operations.

2:15pm–4:15pm

INTERMEDIATE
32220

Opioids and Beyond: The Clinical Laboratory's Role in the Opioid Epidemic

Developed in cooperation with TDM and Toxicology Division

Toxicology testing for opioid compliance and abuse impacts both clinicians and laboratorians, with increased testing demands across the scope of care. Accurate interpretation of results is often a source of discussion and generates questions from the patient care team. This session will describe the clinical needs and testing approaches for opioid assessment, providing common challenges and solutions for both community and specialty hospital laboratories. The session will use an interactive, case-based approach.

2:15pm–4:15pm

INTERMEDIATE
32222

Cardiovascular Precision Medicine: The Laboratory's Role in Advancing Personalized Patient Care

Developed in cooperation with Lipoproteins and Vascular Diseases Divisions; Personalized Medicine Division

Our increased understanding of common risk factors of cardiovascular diseases (CVD) has contributed to the declining mortality rate in the U.S. during the past several decades. Residual risk factors may now be addressed through precision medicine. This session will discuss the role of the laboratory and electronic medical record systems in advancing personalized medicine approaches for diagnosis and treatment of cardiovascular disease including a discussion of new lipid guidelines, implementing non-traditional CVD risk assessments, and the role of the laboratory in guiding physicians in their management of patients with CVD.

CHAIR'S INVITED SESSION

2:15pm–4:15pm

INTERMEDIATE
32223

Race, Genomics and Medicine

Historically, the practice of medicine has used race as a biologic variable in the diagnosis, management and treatment of patients. Race continues to be used as a factor in the practice of medicine and scientific research; however, it has become clear that race as a biologic variable is not supported by genomics. This session will cover the history of race-based medicine, the current health disparities in genomic medicine, and future of genomics research.

SPECIAL SESSION

4:30pm–6:00pm

BASIC

Disruptive Technology Award Competition

MODERATOR: Stephen R. Master, MD, PhD

The Disruptive Technology Award Competition searches for the next innovative testing solution that will improve patient care through diagnostic performance or access to high-quality testing. It provides an opportunity for early to mid-stage start-ups in the medical device, diagnostic, or digital health/health IT spaces to showcase their technology and present to a large audience and a panel of expert judges. Three finalists will present brief lectures showing the detailed data supporting the performance of their novel development. They will be judged for clinical validity, patient impact, market opportunity, business model, competitive analysis, IP strength, regulatory plan, team strength and stage of development.

Following the presentations, there will be a Q&A session between the judges and presenters whereby they will be scored, and a

winner will be announced at the close of the event. In addition to receiving recognition at the meeting, the winning team will be presented with a cash prize and get valuable face time with leaders in in vitro diagnostic industry and research communities.

Finalists and semi-finalists will be showcased on the Expo floor as part of AACC's Innovation Zone from August 6–8.

JUDGES:

- Mary Amor, Head, Ventures & Business Development, Siemens Healthineers, New York, NY
- Kelly Chun, PhD, Vice President & Scientific Director, Specialty Medicine, LabCorp, Los Angeles, CA
- Scott Garnett, Senior Operating Partner, Water Street, LLC, Chicago, IL
- Terry Fetterhoff, Senior Director, Technology Management, Head, US Chief Technology Office, Diagnostics Division, Hoffman-La Roche Diagnostics, Pleasanton, CA
- Evan Norton, MBA, Divisional Vice President & Director of Abbott Ventures, Abbott Laboratories, Chicago, IL

TUESDAY

AUGUST 6

PLENARY & SCIENTIFIC SESSIONS



PLENARY SESSION

Using Biomarkers to Tailor Treatment for Breast Cancer

8:45am–10:15am

BASIC
13001

Virginia Kaklamani, MD, DSc

Professor of Medicine, UT Health San Antonio
MD Anderson Cancer Center, San Antonio, TX

Treatment of breast cancer has evolved in the past several years. The estrogen receptor has been used to select patients who are candidates for endocrine therapy. Genomic assays are currently being used to select patients who may not benefit from chemotherapy in the early-stage setting. Markers such as PIK3CA mutations, PD-L1 staining and ESR1 mutations select patients who may benefit from targeted therapies or may have tumors resistant to other therapies. Breast cancer evolves, and this evolution leads to emergence of resistance.



Registration fees apply for each course.

ROUNDTABLE SESSIONS

7:30am–8:30am (40000 Series) or 12:30pm–1:30pm (50000 Series)

Challenges of Quality Control in Modern Analytical Systems

BASIC

43101 or 53201

SPEAKER: Oswald Sonntag, PhD, Sonntag, Eichenau, Germany

Artificial Intelligence and Data Science in Laboratory: Perspectives and Challenges

INTERMEDIATE

43102 or 53202

SPEAKER: Damien Gruson, PhD, Cliniques Universitaires St-Luc, Kraainem, Belgium

Serum Proteins Following Autologous Hematopoietic Stem Cell Transplantation

ADVANCED

43103 or 53203

SPEAKER: Gurmukh Singh, MD, PhD, MBA, Sheppard Chair in Clin Path, Augusta University Medical Center Inc., Augusta, GA

How Do We Get Physicians to Order the Right Test?

INTERMEDIATE

43104 or 53204

SPEAKER: Eugenio Zabaleta, PhD, OhioHealth Mansfield Hospital, Mansfield, OH

Take Uncertainty Estimation into Your Own Hands with a New NIST Statistical Application

BASIC

43105 or 53205

SPEAKER: Johanna Camara, PhD, NIST, Gaithersburg, MD

Can You Substitute Diesel with Gas in Your Car? The Story of Active Vitamin B12 and Total Vitamin B12

BASIC

43106 or 53206

SPEAKER: Barnali Das, MD, Kokilaben Dhirubhai Ambani Hospital, Mumbai, India

Utility and Challenge of Intra-Operative Parathyroid Hormone Assays

BASIC

43107 or 53207

SPEAKER: Jieli Li, MD, PhD, MD Anderson Cancer Center, Houston, TX

Perspectives to Improve Clinically Relevant Intra-Individual Variability in Intact PTH Immunoassay Results from Patients on Dialysis

INTERMEDIATE

43108 or 53208

SPEAKER: Hana Klassen Vakili, PhD, University of Texas Southwestern Medical Center, Dallas, TX

Rule-Based Strategies for Laboratory Utilization Stewardship

INTERMEDIATE

43109 or 53209

SPEAKER: Ron Schiffman, MD, Southern Arizona VA Healthcare System, Tucson, AZ

Optimizing Testing for Transgender Patients

BASIC

43111 or 53211

SPEAKER: Grace Kroner, PhD, University of Utah/ARUP Laboratories, Salt Lake City, UT

Let's Make it Easier to Get Things Right: Controlling Preanalytical Variation in Laboratory Testing

BASIC

43112 or 53212

SPEAKER: Emily Garnett, PhD, Baylor College of Medicine, Houston, TX

Von Willebrand Disease: Laboratory Investigation and Clinical Correlation

INTERMEDIATE

43113 or 53213

SPEAKER: John Mitsios, PhD, BioReference Laboratories, Elmwood Park, NJ

Effective Clinical Decision-Making through Use of Probability Theory

BASIC

43114 or 53214

SPEAKER: Paul Johnson, MBA, PhD, DABCC, MT(ASCP), SUNY Upstate Medical University, Syracuse, NY

Non-Invasive Prenatal Testing: Utilization of Cell-Free DNA in Fetal Aneuploidy Screening and Beyond

BASIC

43115 or 53215

SPEAKER: Anu Maharjan, PhD, University of Utah, Salt Lake City, UT

Preeclampsia Screening and Diagnosis: A Novel Approach

INTERMEDIATE

43116 or 53216

SPEAKER: Saswati Das, MD, Ram Manohar Lohia Hospital, Delhi, India

Current Methods in Toxicology: What Approach Should My Lab Use for Urine Drug Testing?

BASIC

43117 or 53217

SPEAKER: Melissa Budelier, PhD, Washington University in St. Louis, Saint Louis, MO



ROUNDTABLE SESSIONS

7:30am–8:30am (40000 Series) or 12:30pm–1:30pm (50000 Series)

ANA Testing: The Renaissance of Indirect Immunofluorescence Assay (IFA)

INTERMEDIATE

43120 or 53220

SPEAKER: Vincent Ricchiuti, PhD, ABB, LabCorp, Dublin, OH

Emerging Trends in Glomerular Filtration Rate Measurements for Kidney Transplant Evaluation

BASIC

43121 or 53221

SPEAKER: Rongrong Huang, PhD, Houston Methodist Hospital, Houston, TX

The CDC Vitamin D Standardization-Certification Program (CDC VDSCP)—Improving the Clinical Measurement of Total 25-Hydroxyvitamin D

INTERMEDIATE

43122 or 53222

SPEAKER: Otoi Sugahara, Centers for Disease Control and Prevention, Atlanta, GA

The CDC Hormone Standardization (HoSt) Program—Improving Clinical Measurements of Testosterone and Estradiol

INTERMEDIATE

43123 or 53223

SPEAKER: Krista Poynter, PhD, Centers for Disease Control and Prevention, Atlanta, GA

Assay Interference by Topical Pharmaceuticals: Challenges in Identifying and Eliminating Contaminants in the Laboratory Workspace

BASIC

43124 or 53224

SPEAKER: Jonathan Genzen, MD, PhD, University of Utah/ARUP Laboratories, Salt Lake City, UT

Moving towards ISO: Hospital Accreditation Differences between DNV and the Joint Commission

BASIC

43125 or 53225

SPEAKER: Emily Ryan, MSc, PhD, DABCC, The Medical Center Navicent Health, Macon, GA

Thyroid Testing during Pregnancy: Current Recommendations and Pitfalls

BASIC

43126 or 53226

SPEAKER: Aaron Geno, PhD, Dartmouth-Hitchcock Medical Center, Lebanon, NH

Copeptin and Its Role in the Assessment of Water Balance and Cardiac Disorders

INTERMEDIATE

43127 or 53227

SPEAKER: Joshua Bornhorst, PhD, DABCC, Department of Laboratory Medicine and Pathology, Rochester, MN

Estimating LDL Equations: Time to Ditch Friedwald?

INTERMEDIATE

43128 or 53228

SPEAKER: Joe El-Khoury, PhD, DABCC, FAACC, Yale University, New Haven, CT

Innovative, High-Throughput Methods to Identify Novel Cancer Metabolites

ADVANCED

43129 or 53229

SPEAKER: Andria Denmon, PhD, Fullerton College, Santa Ana, CA

Macromolecules: Big Complexes That Cause Big Problems

BASIC

43130 or 53230

SPEAKER: Sara Wyness, ASCP, ARUP Laboratories, Salt Lake City, UT

Quality Challenges for Global Laboratory Medicine

BASIC

43131 or 53231

SPEAKER: Praveen Sharma, PhD, All India Institute Of Medical Sciences, Jodhpur, Rajasthan, India

The Use and Misuse of Procalcitonin in Clinical Practice

BASIC

43132 or 53232

SPEAKER: Nikolina Babic, PhD, Medical University of South Carolina

TUESDAY | AUGUST 6

MEET THE EXPERT

10:30am–11:30am

Using Biomarkers to Tailor Treatment for Breast Cancer

BASIC
63101

SPEAKER: Virginia Kaklamani, MD, DSc., UT Health San Antonio MD Anderson Cancer Center, San Antonio, TX

This session will provide an excellent opportunity for attendees to meet with Dr. Kaklamani in a more intimate setting and listen to her discuss her talk, "Using Biomarkers to Tailor Treatment for Breast Cancer."

TUESDAY | AUGUST 6

SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm

BASIC
33110

Challenges in the Diagnosis and Management of Polycystic Ovary Syndrome: Multifaceted Perspectives

Developed in cooperation with Endocrinology Division; Pediatric and Maternal-Fetal Division

Polycystic Ovary Syndrome (PCOS) is globally one of the most common endocrine-metabolic disorders and causes of female infertility. However, approximately two-thirds of women with PCOS report significant delays in establishing PCOS as the primary diagnosis and subsequent inadequate follow-up care. International evidence-based guidelines were recently developed to address some of these important challenges. In this session, we will highlight the recent guidelines and explore the evolving roles of patients, researchers, clinicians, laboratorians, and industry partners as they relate to advancing PCOS care. A panel including a physician, laboratorian, and patient advocate will provide balanced and unique perspectives on this complex disease.

10:30am–12:00pm

INTERMEDIATE
33101

Relationships of Fructosamine, Glycated Albumin, and 1,5-Anhydroglucitol to Hyperglycemia: Pros and Cons for Use as Adjunct Markers in Management of Diabetes

Episodic hyperglycemia is known to be a risk factor for complications of diabetes beyond that of average glucose. Plasma concentrations of fructosamine, glycated albumin, and 1,5-anhydroglucitol have all been touted as markers for episodic hyperglycemia. This session will discuss pros and cons of these markers with respect to clinical utilization in management of diabetes. We will review the physiology of the relationships of these markers to hyperglycemia, with comparison/contrast to hemoglobin A1c. We will discuss current literature and claims for use of these markers, current recommendations and practice in use of these markers and the potential future uses.

MORNING

10:30am–12:00pm

INTERMEDIATE

33102

Medicina de Laboratorio Basada en la Evidencia: Que es y Cómo Aplicarla a la Práctica Clínica (Evidence-Based Laboratory Medicine: What Is It and How to Use It in the Clinical Practice)

(This presentation will be presented in Spanish) The most important objective of evidence-based medicine (EBM) is to improve and optimize clinical decision making by using the best evidence available. Since many clinical decisions are influenced by laboratory results, it is vital for laboratorians to be involved in the development of evidence-based clinical practices at their institutions. The unique opportunities and challenges regarding the application of EBM to laboratory medicine will be discussed at this session.

10:30am–12:00pm

BASIC

33103

Chasing Lactate in Sepsis: What Does It Mean, How Do We Use It, and Should We Reduce the Bloodletting?

With the evolving SEP-1 guidelines for sepsis diagnosis and management, blood lactate measurements have become a valuable indicator of deficits in oxygen metabolism and mitochondrial function that occur in sepsis, and help guide appropriate therapy. An elevated or rising lactate may signal a need for more aggressive medical interventions such as administering fluids, red blood cells, vasoactive agents, cardiac inotropes, supplemental oxygen, and/or antibiotics. However, the frequency of lactate testing and the criterium of >2 mmol/L being “elevated” are controversial. With over 60,000 institution-wide lactate measurements reported per year and the SEP-1 guidelines calling for lactate measured at 3 and 6 hours after sepsis onset, understanding the clinical needs and significance of elevated blood lactates can promote optimal management of critically ill patients and ensure more judicious use of this laboratory test.

10:30am–12:00pm

BASIC

33104

Digital Medicine and the Connected Health Consumer: What You Need to Know

Technological innovations are potentially disruptive to laboratory testing and healthcare. Digital health is often described as the integration of digital technologies with healthcare that seeks to empower people to track their health, decrease inefficiencies, improve access, reduce costs, and increase the quality of care. Smartphones, wireless devices, and wearables provide the ability for consumers to monitor, analyze, report, and share fitness and health data via the Internet. Social media allows consumers to network with one another, and to compare wellness and information on health and disease states. Direct-to-consumer testing is also on the rise as consumers become more educated and proactive about their own health. Further, there is increased interest in the collection and commercialization of consumer and patient health data along with its subsequent mining for potential medical breakthroughs. This is an exciting time of advancement in our field, and its intersection with the public is unprecedented. As with all paradigm shifts, questions and debates arise, and there is a need to balance the hype and misconceptions with accurate and clear scientific information. This session will engage social media as a modality to moderate interactive discussions and guide dialogue among attendees.

10:30am–12:00pm

INTERMEDIATE

33105

The Value Proposition: Actionable Strategies for Enhancing the Value of Laboratory Medicine

Developed in cooperation with IFCC Committee for the Value Proposition in Laboratory Medicine (C-VPLM)

Laboratory medicine must shift from a volume-based service and commoditization to a value-based model of [Benefit or Outcome ÷ Cost], defined in terms of health outcomes, cost reductions, improved efficiencies and/or customer satisfaction. The value proposition framework will be articulated as a means for specifying unmet need(s), outcomes and monitoring metrics for analysis of benefits, costs and value. Ways for improving the laboratorian-stakeholder interface through actionable testing strategies in molecular oncology, and high-sensitivity cardiac troponin will be presented. The laboratory's role in improving the patient care experience will be discussed from a clinician's perspective.

SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm

BASIC
33106

Integrating Laboratory Results to Increase Quality Care for Affected Newborns Identified through Newborn Screening: What Is the Optimal Workflow?

Newborn screening (NBS) is a state-mandated public health program that uses laboratory testing to screen and diagnose disorders in newborns that can cause serious acute and chronic health problems. The complexity of this system makes it vulnerable to system failures, including delayed treatments, which can have devastating consequences. This session will provide an overview of the NBS system and provide insight into opportunities for improving delivery of care to this population of newborns.

10:30am–12:00pm

INTERMEDIATE
33107

Therapeutic Drug Monitoring in Alternative Specimens: Advantages, Pitfalls and Analytical Challenges

Oral fluid is an appealing matrix for therapeutic drug monitoring (TDM) because specimen collection is non-invasive and measurement of drugs in this specimen-type represents pharmacologically active free drug concentrations. In addition, TDM using dried blood spots is also gaining popularity due to the ease of collection and shipping, as well as the development of automated methods for drug analysis in dried blood spots. Less popular matrices for TDM analysis include interstitial fluid, tears, sweat and nasal mucus. This session will discuss the advantages and pitfalls of using various alternative specimens for TDM, including analytical challenges.

10:30am–12:00pm

INTERMEDIATE
33108

Impact of Hormones on Drug Testing: From the Bench to the Bedside

Synthetic and endogenous hormones are known to affect not only physiology but also the pharmacology and efficacy of various drugs. People ingest, inject, and absorb synthetic hormones for a variety of reasons, ranging from performance enhancement for sports; as gender-affirming hormonal therapies, contraception, and symptom relief (menopause/endometriosis); and to replace or supplement endogenous hormone production. This session will survey the ways in which synthetic hormones influence drug pharmacology and how this can impact the practice of medicine.

10:30am–12:00pm

INTERMEDIATE
33109

Clinical Chemistry's Hot Topics of 2019

Advancements in genetic testing technologies that enable direct-to-consumer testing and the continuous evolution of clinical mass spectrometry are the subject of numerous highly cited articles published in *Clinical Chemistry*. These advances will be discussed in this session.

AFTERNOON

2:30pm–5:00pm

BASIC
33216

Breaking Down Gender from Cis to Trans

Gender-affirming hormones are standard of care for transgender people who seek to medically transition. Sex hormones influence chemistry, hematology, and microbiology results. Our team has established transgender-specific reference intervals and performed pioneering investigations into the vaginal flora of transgender men and women. This session will empower the laboratory with the tools necessary for serving the transgender population.

2:30pm–5:00pm

BASIC
33217

Making the Quantum Leap in Clinical Chemistry Teaching

Developed in cooperation with Society for Young Clinical Laboratories

Recent survey results show pathology residents typically do not have positive attitudes toward clinical chemistry. To possibly change this perspective, there needs to be a dynamic shift in the way we teach clinical chemistry. This scientific session will highlight current challenges, practical examples and medical education tools immediately available for clinical chemistry educators.

2:30pm–5:00pm

INTERMEDIATE
33218

Worldwide Challenges in POCT—A Focus on Molecular POCT

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

Point-of-care testing (POCT) for infectious diseases has seen recent advancements in accuracy from the development of novel molecular methods. This session will cover issues specific to POCT implementation, management and methodologies that are applicable worldwide.

SCIENTIFIC SESSIONS

AFTERNOON

2:30pm–5:00pm

INTERMEDIATE

33219

Interactive Pain Management Case Studies: Clinician and Laboratory Perspectives

Pain is one of the most common reasons people seek care. Addiction and diversion of pain management medications is also a growing problem. Therefore, professional organizations and published recommendations include the use of laboratory tests, specifically urine drug testing. As a result, physicians are using a variety of urine drug tests to provide objective measures to effectively manage pain patients, assess compliance, and detect diversion. This session will discuss the advantages and limitations of these assays and use interactive case studies to directly apply this knowledge to correctly interpret patient test results using live interactions between a clinician and laboratorians.

2:30pm–5:00pm

BASIC

33220

Learning from Predictions: What We Need to Know about Machine Learning

This session will provide a general overview of machine learning (ML) in laboratory medicine, focusing initially on key concepts, advantages, and opportunities. The second segment will explore the potential of ML to optimize the value of laboratory data in patient care. The last segment will address strategies for validating ML systems and monitoring their performance over time.

2:30pm–5:00pm

BASIC

33221

Como Mantener la Alta Calidad de sus Resultados de Laboratorio (How to Maintain the High Quality of Your Laboratory Test Results)

Developed in cooperation with Latin American Working Group within AACC's Global Lab Quality Initiative

(This session will be presented in Spanish.) Laboratory methods and assays ideally demonstrate acceptable analytical performance throughout the test lifecycle (from test validation phase until its end of use in clinical practice). It is critical to implement strategies and tools to monitor the quality and method performance over time, which can identify analytical issues as they arise before negatively impacting patient results. This session will discuss three primary areas important to producing quality laboratory results, as well as strategies and tools which are complementary to monitoring the performance of a laboratory method. The quality monitoring and assurance topics will focus on lot-to-lot reagent variability, quality control, and proficiency testing.

2:30pm–5:00pm

BASIC

33222

Micronutrient Testing for Nutritional Assessment

Developed in cooperation with Nutrition Division

This session will focus on the clinical impetus and utility of laboratory testing for various vitamins and trace elements. Clinical testing of micronutrients occurs as part of broad nutritional assessments, for evaluation of suspected deficiencies or toxicity, and for monitoring of parenteral nutrition. Appropriate ordering of micronutrient and vitamin testing, as well as interpretation of the results, requires an understanding of micronutrient distribution in the body and selection of appropriate specimen types. This session will review aspects of micronutrient intake and absorption, test utilization, analytical methodologies, and limitations associated with these analytes. Attendees will gain insight and strategies to successfully manage requests for micronutrient testing.

2:30pm–5:00pm

INTERMEDIATE

33223

Quality Indicators That Determine the Performance of NGS Assays in Precision Oncology

Developed in cooperation with Molecular Pathology Division

Next-generation sequencing (NGS) oncology assays characterize multiple genomic variants including single nucleotide variants (SNV), indels, fusions, copy number alterations and other measures such as microsatellite instability (MSI) and tumor mutation burden (TMB). The analytical performance of NGS assays are complicated by variables such as tissue fixation, cellularity, quantity, quality and heterogeneity. As the breadth of information interrogated in tumors increases, the need to select QA/QC metrics that ensure optimal functioning at multiple levels poses challenges. QA/QC metrics should ensure that the sequencing data obtained is reliable for interpretation of variants in clinical reports. Quality indicators can be customized, depending on the type of NGS assay, to ensure optimal performance and include, but are not limited to, specimen selection, sequencing qualifiers, inter-assay variability, control monitoring and variant classification. This session will help identify the QC metrics to address specific indications queried in NGS assays. Specific examples will be utilized to demonstrate how QC monitoring can identify performance and trends through the NGS process.

SCIENTIFIC SESSIONS

AFTERNOON

2:30pm–5:00pm

INTERMEDIATE

33224

Institutional Laboratory Stewardship Programs: Best Practices, Interventions, Informatics

Developed in cooperation with Management Sciences and Patient Safety Division

Appropriate test utilization is an important part of patient care, and laboratory stewardship programs are becoming increasingly necessary as the availability and costs of laboratory testing increase. There are many approaches to improving laboratory test utilization, including systematic changes to electronic health records, computerized provider order entry systems, stakeholder engagement, provider feedback, and proactive review of test requests. This session will (1) describe a framework of national guidelines for laboratory stewardship programs, (2) discuss examples of clinical impact of stewardship programs on academic medical center hospitals, and (3) illustrate steps for integration and prioritization of informatics resources at the institution level.

2:30pm–5:00pm

BASIC

33225

Immunogenicity of Therapeutic Monoclonal Antibodies: Analytical and Clinical Perspectives

Developed in cooperation with Clinical & Diagnostic Immunology Division

Immunogenicity is the property of a substance to illicit an immune response. Immunogenicity to monoclonal antibody-based therapies may lead to production of anti-drug antibodies (ADAs) and inactivation of the therapeutic effects of the drug. Analytical methods and challenges, pharmacological and clinical evidence of their impact, and controversies in the interpretation of test results in the context of ADAs will be discussed.

2:30pm–5:00pm

BASIC

33226

Autoantibody Testing in Autoimmune Neurological Diseases

Autoimmune neurology is an emerging subspecialty field with a focus on management of patients with immune-mediated diseases of the nervous system. Recent evidence suggests that autoimmune neurological diseases are far more common than traditionally believed. With the increased awareness of these diseases and identification of a growing number of disease-associated autoantibody biomarkers, there is an increased demand for autoantibody testing. This session will provide an overview of autoimmune neurological disorders, antibody-disease associations, current testing methodologies, antibody testing profiles and efforts to improve test utilization.

2:30pm–5:00pm

BASIC

33227

Storytelling with R: Application Showcase

Developed in cooperation with Informatics Division

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 focus on utilizing R for data reporting and visualization.

2:30pm–5:00pm

INTERMEDIATE

33228

Clinical Endocrine Assays: What Endocrinologists Will Ask You

Developed in cooperation with Endocrine Society

Endocrinologists frequently contact the clinical lab for guidance on test selection and interpretation. An informal survey of clinicians attending the Endocrine Society's annual conference identified some common areas of confusion, including biochemical markers of bone turnover in osteoporosis, interpretation of ACTH and cortisol assay results in challenging patients, and clinical evaluation of vitamin D metabolite assay results. This session will address these topics to prepare clinical laboratorians to answer the questions in these areas.

2:30pm–5:00pm

BASIC

33229

Blood Gas Testing: Basics and Beyond

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

WEDNESDAY

AUGUST 7

PLENARY & SCIENTIFIC SESSIONS



PLENARY SESSION

Towards Precision Medicine

8:45am–10:15am

BASIC
14001

**Euan Ashley, MB ChB, FRCP,
DPhil, FAHA, FACC, FESC**

Stanford Center for Inherited Cardiovascular
Disease, Stanford, CA

The session will introduce the concept of precision medicine, particularly with reference to clinical genomics, using specific patient examples, including from the Undiagnosed Diseases Network. Algorithmic approaches to human genome interpretation will be discussed, and areas where current technologies fall short of clinical-grade test quality will be highlighted. Newer technologies such as long-read sequencing and new algorithms for improving test performance in complex areas of the genome will be introduced. Finally, near-term opportunities for predictive and preventive genomic medicine will be examined in the context of changing healthcare delivery environments.



ROUNDTABLE SESSIONS

7:30am–8:30am (40000 Series) or 12:30pm–1:30pm (50000 Series)

Drug Interference—The Unsolved Problem

BASIC

SPEAKER: Oswald Sonntag, PhD, Eichenau, Germany

44101 or 54201

The Trials and Triumphs of HIV Testing

INTERMEDIATE

SPEAKER: Vera Tesic, MD, ABMM, University of Chicago, River Forest, IL

44102 or 54202

Grow Your Tribe: Tools to Help You Foster Employee Engagement

BASIC

SPEAKER: Kenneth Hoekstra, MSc, PhD, ABB, FAACC, Quest Diagnostics, Sedro-Woolley, WA

44103 or 54203

Changing the Culture to a Culture of Change: Case Studies and Approaches to Empowering Change and Improvement

INTERMEDIATE

Developed in Cooperation with Management Sciences and Patient Safety Division

SPEAKER: Jack Zakowski, PhD, FAACC, IVD Consulting LLC, Yorba Linda, CA

44104 or 54204

The CDC Clinical Standardization Programs—Improving the Measurement of Free Thyroxine

INTERMEDIATE

SPEAKER: Ashley Ribera, Centers for Disease Control and Prevention, Atlanta, GA

44105 or 54205

HIV Diagnostics: Past, Present and Future

INTERMEDIATE

SPEAKER: Vincent Ricchiuti, PhD, ABB, LabCorp, Dublin, OH

44107 or 54207

Emerging Mass Spectrometry Methods for Detection and Characterization of M Protein

BASIC

SPEAKER: Lidong He, PhD, University of Virginia, Charlottesville, VA

44108 or 54208

Vitamin D Measurements: How Much of This Sunshine Vitamin Testing is Credible?

BASIC

SPEAKER: Rachita Nanda, MD, MAMS, AIIMS Raipur, Raipur, India

44109 or 54209

Evaluation and Management of Interfering Substances in a Multicenter Setting: Focus on Lipemia

INTERMEDIATE

SPEAKER: Neval Akbas, PhD, Medpace Reference Laboratories, Cincinnati, OH

44110 or 54210

Auto-Validation Rule Testing to Ensure Continuous Quality and Reliability

BASIC

SPEAKER: Angela Martin, ASCP, Norton Healthcare, Louisville, KY

44111 or 54211

Retrospective Analysis of Drugs in Patient Urine Assists in the Assessment of Patient Adherence

INTERMEDIATE

SPEAKER: Sheng Feng, PhD, Hospital of the University of Pennsylvania, Philadelphia, PA

44112 or 54212

Sample Collection Devices as a Source of Pre-Analytical Errors: Impact of Collection Tube Components on Clinical Assays

INTERMEDIATE

SPEAKER: Raffick Bowen, MHA, PhD, FCACB, DABCC, MLT(CSMLS), FAACC, Stanford Health Care, Stanford, CA

44113 or 54213

Developing an Individualized Quality Control Plan (IQCP)

INTERMEDIATE

SPEAKER: Evrim Erdogan, PhD, DABCC, FAACC, Baystate Health System, Springfield, MA

44114 or 54214

Umbilical Cord Testing—Moving Beyond Blood Gases

BASIC

SPEAKER: Amy Karger, MD, PhD, DABCC, University of Minnesota, Minneapolis, MN

44115 or 54215

A Case of Suspected Macroprolactinemia: Collaboration between Laboratorians and Clinicians in Interpreting Unexpected Test Results

BASIC

SPEAKER: Christina Pierre, PhD, University of Virginia, Charlottesville, VA

44116 or 54216

Quality Assurance: Instrument Performance Comparison in a Multiple-Platform Testing Environment

BASIC

SPEAKER: Yifei Yang, PhD, DABCC, University of Utah & ARUP Laboratories, Salt Lake City, UT

44118 or 54218

Review of Reference Intervals across Four Hospital Laboratories

INTERMEDIATE

SPEAKER: Alison Bransfield, MS, Bon Secours Hospital, Cork, Ireland

44119 or 54219



ROUNDTABLE SESSIONS

7:30am–8:30am (40000 Series) or 12:30pm–1:30pm (50000 Series)

LC-MS/MS for Pediatric Steroid Hormone Measurement: Overview and Practice **INTERMEDIATE**
44120 or 54220
SPEAKER: Run Zhang Shi, MD, PhD, Stanford Medical Center Clinical Laboratories, Palo Alto, CA

Connecting R Programming to Non-R Users via Graphical User Interfaces **BASIC**
44121 or 54221
SPEAKER: Douglas Wirtz, National Foundation for the Centers of Disease Control and Prevention, Atlanta, GA

Pre-Analytical Pitfalls in Hemostasis Testing and Strategies for Preventing Them **BASIC**
44122 or 54222
SPEAKER: Anna Merrill, PhD, DABCC, University of Iowa, Iowa City, IA

Validation and Implementation of Automated Analyzers across Multiple Laboratory Sites—A Practical Approach **INTERMEDIATE**
44123 or 54223
SPEAKER: Kika Veljkovic, PhD, FCACB, Lifelabs, Toronto, Canada

Predictive Analytics in the Clinical Laboratory **BASIC**
44124 or 54224
SPEAKER: Niklas Krumm, MD, PhD, University of Washington, Seattle, WA

Emerging Biomarkers in Dementia—Challenges and Opportunities **INTERMEDIATE**
44125 or 54225
SPEAKER: Erin Schuler, PhD, University of Kentucky, Lexington, KY

Diagnosing Inborn Errors of Metabolism: Challenging Cases in Biochemical Genetics **INTERMEDIATE**
44126 or 54226
SPEAKER: Irene De Biase, MD, PhD, ABMG, University of Utah/ARUP Laboratories, Salt Lake City, UT

Detecting Small-Molecule Analytes in Oral Fluid by LC-MS/MS: Matrix-Specific Factors to Consider for Assay Development **BASIC**
44127 or 54227
SPEAKER: Adina Badea, PhD, UCSF/SFGH, San Francisco, CA

Pharmacogenomics and Mass Spectrometry in the Clinical Lab: A Fledgling Partnership **BASIC**
44128 or 54228
SPEAKER: Grace Williams, PhD, Dartmouth-Hitchcock Medical Center, Lebanon, NH

Reference Intervals for Thyroid Function Tests during Pregnancy **BASIC**
44129 or 54229
SPEAKER: Sonia La'ulu, ASCP, ARUP Laboratories, Salt Lake City, UT

Supporting Opioid Addiction Programs with Unexpected Testing—Ethanol Metabolite Test Development in an Appalachian Laboratory **BASIC**
44130 or 54230
SPEAKER: Danyel Tacker, PhD, DABCC, FAACC, West Virginia University Hospitals, Morgantown, WV

Improving the Measurement of Parathyroid Hormone (PTH) and Related PTH Variants Through the Development of a Reference Measurement Procedure for the Accurate Testing of Hormones (PATH) **BASIC**
44131 or 54231
SPEAKER: Candice Ulmer, PhD, Centers for Disease Control and Prevention, Atlanta, GA

Experiences Implementing Moving Averages to Assist with Quality Assurance **INTERMEDIATE**
44132 or 54232
SPEAKER: Adam McShane, PhD, DABCC, Cleveland Clinic, Cleveland, OH

Managing the Wild Wild West of Point-of-Care Testing **INTERMEDIATE**
44133 or 54233
SPEAKER: Edward Leung, PhD, DABCC, FAACC, Children's Hospital Los Angeles, Los Angeles, CA

Plate-Format Label-Free Immunoassay—A New Horizon for the Quantitation of Proteins and Antibody Drugs? **ADVANCED**
44134 or 54234
SPEAKER: Y. Ruben Luo, PhD, University of California San Francisco, San Francisco, CA

Preanalytical Challenges and Interferences In Chemistry Tests in Cancer Patients **BASIC**
44135 or 54235
SPEAKER: Lakshmi Ramanathan, PhD, Memorial Sloan-Kettering Cancer Center, New York, NY

Recognizing Drug-Induced Liver Injury: Common Drugs with Hepatotoxicity, Classification, and Evaluation **INTERMEDIATE**
44136 or 54236
SPEAKER: Jada (Yu) Zhang, MD, PhD, Zuckerberg San Francisco General Hospital, San Francisco, CA

WEDNESDAY | AUGUST 7

MEET THE EXPERT

10:30am–11:30am

Towards Precision Medicine

SPEAKER: Euan Ashley, MB ChB, FRCP, DPhil, FAHA, FACC, FESC, Stanford Center for Inherited Cardiovascular Disease, Stanford, CA

This session will provide an excellent opportunity for attendees to meet with Dr. Ashley in a more intimate setting and listen to him discuss his talk, "Towards Precision Medicine."

CE Hours: 1

BASIC
64101

WEDNESDAY | AUGUST 7

SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm

Putting QC into Practice

This session will focus on real-world, practical approaches for implementing a QC program. Topics covered include determining QC target values and standard deviations, determining frequency of analysis, choosing QC multi-rule strategies, establishing QC acceptance criteria, and innovative approaches for improving the efficiency of QC review. Practical procedures for evaluation of lot changes of reagent, calibrator and QC materials will be presented, and solutions to commonly encountered problems will be explored. Performance monitoring approaches such as among-instrument assessment and using commutable certified reference materials will be explained. Case studies and real-world examples will be used to demonstrate the concepts presented in the session.

BASIC
34101

10:30am–12:00pm

INTERMEDIATE
34102

Strategies and Tactics for Practical Test Utilization Management

This session will present simple and practical techniques for rapid implementation of test utilization improvements. An interactive format will be used to examine participants' current test stewardship activities as the contextual framework for demonstrating various easy-to-apply techniques that address common, real-world test utilization problems. Examples include ways to avoid ordering mistakes, use of prerequisite testing protocols, test menu and nomenclature structure, reducing misinterpretation risks, a simple process to identify over-ordering of specific test(s), and guidance for investigating common and easily solved problems. Pre-registrants will receive a form to collect data from their laboratory for use at this session.

SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm

INTERMEDIATE
34103

Intellectual Property and Landmark Patent Lawsuits: The Role of U.S. Patents for Clinical Laboratory Diagnostic Tests

With reference to laboratory diagnostics, recent court decisions have altered 30 years of jurisprudence affecting what can and cannot be patented (e.g., *Cleveland Clinic v True Health*, *Myriad v AMP*, *Mayo v Prometheus*, and *Sequenom v Ariosa*). This has introduced incoherence, induced uncertainty, and dampened enthusiasm for private investments. Academics, industry, and investors must understand the reasons that courts intervened to change U.S. law about patentable subject matter. In addition, the session will cover the current limits of patent law, as well as the implications for current practice and future prospects for molecular diagnostics.

10:30am–12:00pm

INTERMEDIATE
34104

Surviving the Regulatory and Accreditation Landscape: The Must-Know Secrets for Success!

Developed in cooperation with College of American Pathologists

This session will be an interactive, case-based session for new and experienced laboratory directors, managers, supervisors and quality personnel focusing on regulatory and accreditation issues that put laboratories at risk. Participants will get practical tips to handling challenging issues such as proficiency testing, competency assessment, delegation of duties, and others.

10:30am–12:00pm

BASIC
34105

Getting by with a Little Help from My Friends: “Speed Dating” with Peers to Troubleshoot Common Issues in the Clinical Laboratory

Bring your knowledge and real-world experience to work through commonly encountered matters related to clinical pathology. This interactive session will provide a “speed-dating” workshop format for discussing issues encountered by laboratorians. Attendees will rotate tables between four topics covering identifying problem specimens, discontinuing or changing testing methods, harmonization of an analyte across a health system, and improving point-of-care testing accountability. Attendees will pair up with others to discuss the pre-defined scenarios. At the end, the host at each table will provide a high-level summary with a hand-out and facilitate further discussion.

10:30am–12:00pm

INTERMEDIATE
34106

Towards Improved Cardiovascular Disease (CVD) Risk Screening and Prevention by Improving Measurement of Blood Lipids

This session will discuss the current state of standardization and harmonization efforts directed towards biomarkers of cardiovascular disease, specifically blood lipids and lipoproteins. The importance of developing updated analytical performance criteria, as well as the clinical implications, will be highlighted. Clinical, pre-analytical, and analytical aspects of lipid measurements will also be addressed.

10:30am–12:00pm

BASIC
34107

Beautiful Skin but Erroneous Lab Results: The AACC Academy’s Guidance Document on Biotin Interference

This session reviews the highlights of the AACC Academy’s recent guidance document on biotin interferences with clinical laboratory assays. The mechanisms of biotin interference with both competitive and non-competitive assays and methods to identify suspected interferences will be discussed. Steps that clinicians and laboratorians can take to reduce or eliminate biotin interferences will also be presented.

10:30am–12:00pm

ADVANCED
34108

Journal of Applied Laboratory Medicine’s 2019 Hot Topics: Sepsis Diagnosis and Management: Role of Novel Biomarkers and Procalcitonin Confounders

Developed in Cooperation with Journal of Applied Laboratory Medicine

Sepsis, a widespread medical emergency, occurs in ~6% of hospitalizations but causes 1/3 of hospital deaths. How the biomarkers iNOS and human neutrophil lipocalin may assist in guiding urgent, life-saving management of early sepsis will be discussed. Also, procalcitonin measurement may be useful; pros, cons and limitations will be discussed.

SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm

INTERMEDIATE

34109

Moving beyond Immunoassays for the Poisoned Patient: Analytical Approaches and Interactive Case Studies

Urine toxicology testing has significant limitations when a patient presents with a potential overdose or poisoning. Many illicitly manufactured drugs and novel psychoactive substances, including synthetic amphetamines, cannabinoids, and opioids, such as fentanyl analogs, are not detected by routine drug testing. This session will emphasize how to effectively communicate with clinicians for further testing, describe analytical tools used for monitoring the poisoned patient and highlight the complexity of the current overdose epidemic in the United States through interactive case studies (audience response).

AFTERNOON

2:30pm–5:00pm

ADVANCED

34216

Liquid Chromatography-Tandem Mass Spectrometry, Advanced Topics

Developed in cooperation with Mass Spectrometry and Separation Sciences Division

Liquid chromatography-tandem mass spectrometry (LC-MS/MS) is a maturing technique for diagnostic laboratories. An introduction of testing protocols using LC-MS/MS has been introduced at AACC University (The Secrets to Success: Implementing Robust LC-MS/MS Methods in the Clinical Laboratory); this course intends to build on that session by exploring experimental pathways of more esoteric assays (i.e., clinical protein analysis) as well as considerations for operational execution of LC-MS/MS in the clinical lab.

2:30pm–5:00pm

INTERMEDIATE

34217

Better Diagnoses, Improved Patient Outcomes through Patient-Centered Laboratory Medicine

Every nine minutes, someone in a U.S. hospital dies because of an incorrect or delayed medical diagnosis. The reduction of diagnostic error and unnecessary or harmful procedures, the focus on improved patient outcomes, and the shift from volume to value are key themes of 21st-century medicine. The clinical laboratory has a pivotal role in all these areas. This session will explore the broad linkage of laboratory testing to patient outcomes. The discussion will include the value of point-of-care testing, and will indicate new approaches to delivering patient-centered laboratory medicine.

2:30pm–5:00pm

INTERMEDIATE

34218

Tackling Infectious Disease Testing and Interpretation: Considering the Perspectives of the Core Clinical Laboratory and Point-of-Care Testing

This workshop-style, interactive session will use practical, case-based scenarios along with audience participation techniques to help attendees identify best practices in infectious disease testing and interpretation. For each infectious disease covered (HIV, HCV, HBV, C. diff, flu and syphilis), speakers will briefly present the relevant analytical and clinical considerations for evaluating testing methods, determining necessary reflex confirmations, and demonstrating the value of personalized reporting and interpretation of results. Breakout sessions will then follow each presentation and include roundtable discussions of case examples for attendees to determine how to best optimize workflows, reduce unnecessary costs, and, ultimately, support quality patient care.

2:30pm–5:00pm

INTERMEDIATE

34219

Renal Tubules in Acid/Base Disorders and Blood Pressure Regulation: We Don't Get Respect!

Renal tubular disorders are underappreciated and often not well-understood due to the biological and clinical complexities of the disease. Presentation of the pathophysiology of renal tubular disorders, as well as interpretation of relevant clinical laboratory tests, will empower attendees to appropriately guide discussions with clinicians surrounding the role of the renal tubules in acid/base balance and blood pressure regulation and ultimately impact test utilization. This session will use a case-based format to solicit interactive discussion among participants.

2:30pm–5:00pm

INTERMEDIATE

34220

Patient-Based Quality Control Techniques: Statistical Power from and for the Masses

This session will describe the evolution of patient-based quality control techniques from theory into practice, and will include a comparison of the strengths and weaknesses of techniques such as the average of normals and patient moving averages. The session will include the differing unique perspectives of the hospital-based laboratory and high-throughput large reference laboratory. Examples where patient-based quality control successfully detected the onset of analytic error prior to traditional quality control events will be presented in a case-based format.

SCIENTIFIC SESSIONS

AFTERNOON

2:30pm–5:00pm

BASIC
34221

The Devil Is in the Details: Coagulation Testing for Different Patient Populations

Developed in cooperation with Hematology and Coagulation Division

Disorders in coagulation present various clinical and analytical challenges. The landscape of treatment and laboratory monitoring for these disorders is rapidly changing. This session will focus on clinical and laboratory aspects of coagulation in commonly encountered patient populations: patients with liver disease, patients taking direct oral anticoagulants (DOACs), and patients with autoimmune disorders, including thyroid disease.

2:30pm–5:00pm

INTERMEDIATE
34223

Overcoming the Challenges of ANA Testing

Developed in cooperation with Clinical and Diagnostic Immunology Division

Antinuclear antibody (ANA) testing presents the clinical laboratory with many unique challenges, from methodological differences to clinical applications. This session will include an overview of ANA testing with a focus on clinical interpretation, a methodological comparison between immunofluorescence and immunoassays, and a discussion on the advantages and limitations of laboratory automation related to ANA testing.

2:30pm–5:00pm

INTERMEDIATE
34224

Clinical Applications of Established and Emerging Multi-Analyte Testing Approaches

Implementing multi-analyte tests that combine biomarkers, patient demographics and clinical information into an algorithm to generate a disease risk score is becoming increasingly common in clinical laboratories. This session will center on the clinical utility and implementation considerations of established multi-analyte strategies along with highlighting emerging multi-analyte testing approaches.

2:30pm–5:00pm

INTERMEDIATE
34225

Healthcare Forum: Laboratory Stewardship in Healthcare Innovation

Developed in cooperation with Policy and External Affairs Core Committee

The session will address the current shifts in healthcare delivery and payments away from volume-based fee-for-service models toward value-based models with bundled or capitated payments. To be successful, the new models will require collaboration and cooperation across the entire spectrum of providers and healthcare professionals, each of whom has a unique role in providing high-value, cost-efficient care. This session will address the framework of the shifting models, the needs of integrated healthcare systems, and tools for laboratory directors to implement successful laboratory stewardship programs.

4:00pm–5:00pm

BASIC

Laboratory Feud: Science and Practice Core Committee vs. Education Core Committee

This session will use the “Family Feud” game show-style format in which two teams (five members of the AACC Science and Practice Core Committee vs. five members of the Education Core Committee) will compete in an educational challenge covering various laboratory medicine topics. It will be not only educational, but also provide a platform for the audience to become more familiar with some of our AACC leaders.

This session is held in the Exhibit Hall and offers no CE credit.

THURSDAY

AUGUST 8

PLENARY & SCIENTIFIC SESSIONS



PLENARY SESSION

Extreme Molecular Diagnostics

8:45am–10:15am

BASIC
15001

Carl Wittwer, MD, PhD

University of Utah, Salt Lake City, UT

Extreme molecular diagnostics takes only seconds. With very short turn-around times, pre-analytical and post-analytical challenges are minimized, point-of-care testing makes sense and high-throughput is not necessary. Real-time "extreme" PCR in <15-seconds (35 cycles, 60-bp human genomic DNA) is specific, sensitive and high yield. High-speed melting analysis (4 seconds) allows single base genotyping and variant scanning. Rapid reverse transcription and sample preparation will enable sample-to-answer diagnostics in <1 minute. The value of point-of-care testing depends on how quickly it can be performed.

THURSDAY | AUGUST 8

MEET THE EXPERT

10:30am–11:30am

Extreme Molecular Diagnostics

SPEAKER: Carl Wittwer, MD, PhD, University of Utah, Salt Lake City, UT

BASIC
65101

This session will provide an excellent opportunity for attendees to meet with Dr. Wittwer in a more intimate setting and listen to him discuss his talk, "Extreme Molecular Diagnostics."

THURSDAY | AUGUST 8

SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm

INTERMEDIATE
35101

Return of Individual Specific Research Results to Participants: The National Academy of Sciences, Engineering and Medicine Report

Research drives scientific discovery and advances laboratory medicine. While HIPAA grants research participants access to their study results, CLIA requires minimal quality standards if research results are intended for clinical care. This session will explore this regulatory conflict and the impact of recommendations from the recent National Academies of Sciences, Engineering and Medicine report on hospital and academic laboratory operations.

10:30am–12:00pm

INTERMEDIATE
35102

Plasma Microvesicles: A Treasure Trove of Novel Biomarkers for Disease Diagnosis

As a means of communication, cells secrete biological materials through the formation and shedding of microvesicles. These circulating extracellular nanoparticles contain proteins and nucleic acids that are specific to the host cell. Methods are available for isolation of microvesicles from plasma. Analysis of microvesicle content provides a source of biomarkers for disease detection.

10:30am–12:00pm

BASIC
35103

Artery Hot Topics 2019

Using AACC's online forum, Artery, as a metric, we have identified three common areas of ambiguity facing today's clinical laboratorians: individualized quality control plans, oral glucose tolerance testing, and drugs of abuse immunoassay screening. Relevant to each of these challenges, this session will provide essential scientific background, current regulations and/or practice guidelines, and practical opportunities for resolution.

10:30am–12:00pm

INTERMEDIATE
35104

Removing Laboratory Barriers to Improve Kidney Disease Testing and Diagnosis

Developed in cooperation with Management Sciences and Patient Safety Division and Clinical Societies Collaboration Committee

Chronic Kidney Disease (CKD) is a public health issue. Over 80% of the 30 million people with CKD are undiagnosed in primary care, including almost 50% of patients in kidney failure. The National Kidney Foundation, the nation's leading laboratories, and prominent pathology organizations are collaborating to remove laboratory test ordering and reporting barriers to CKD testing. This session brings perspectives on this collaboration from patients, nephrologists, pathologists, and primary care physicians.

SCIENTIFIC SESSIONS

MORNING

10:30am–12:00pm

INTERMEDIATE

35105

Opportunities and New Approaches to Guide Utilization of Urine-Based Testing for Diagnosis of Infectious Disease

Recent advances in urine collection devices and diagnostic testing have provided opportunities for clinical laboratories to improve upon stagnant practices that may have deleterious effects on test utilization and result quality. This case-based session will highlight the importance of pre-analytical variables in urine testing, describe the impact of reflex algorithms on urine culture utilization, and describe how laboratory-based initiatives to reduce unnecessary urine testing can support value-based care and impact patient care.

10:30am–12:00pm

INTERMEDIATE

35106

Hemostatic Disorders That Can Kill You

Developed in cooperation with Hematology and Coagulation Division

Dangerous common thrombotic disorders require early recognition, diagnosis, and treatment because they are amenable to treatments which result in positive patient outcomes. This session will discuss common thrombotic disorders, including heparin-induced thrombocytopenia (HIT) and the anti-phospholipid syndrome (APLS). For these disorders, a selected combination of a few tests may be more helpful than a “shotgun” battery of coagulation testing. These coagulation tests are not necessarily esoteric laboratory assays and often results may be within the reference range even in serious conditions. It is essential that laboratorians become familiar with these life-threatening conditions in order to prioritize their workload within a busy core laboratory and have productive discussions with the clinical hematology team in order to provide them with appropriate guidance and interpretation.

AACC INNOVATION ZONE

New for 2019, the **AACC INNOVATION ZONE** brings unique, curated content to the AACC Clinical Lab Expo focusing on forward-thinking innovators in laboratory medicine.

Visit the **AACC INNOVATION ZONE**, located in the exhibit hall, to experience the latest in diagnostic innovations through brief talks presented by AACC's flagship news magazine, *Clinical Laboratory News*, and special presentations from AACC Disruptive Technology Award semi-finalists.

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TDM