EXPERIENCE THE FUTURE OF LABORATORY MEDICINE

200+ EDUCATION SESSIONS:
Learn from industry leaders and choose from an exceptional lineup of topics.

700+ EXHIBITORS:
Discover new and innovative products from every clinical lab discipline.

20,000 ATTENDEES:
Make global connections and expand your professional network.

AACC’s Annual Meeting & Clinical Lab Expo is the perfect blend of industry-leading content and the latest technology trends. Experience the future of laboratory medicine.

Registration is now open!

www.aacc.org/2014am
Therapeutic Drug Monitoring using the **Gold Standard**

Kits, Calibrators and Controls for Mass Spectrometry

**Extended Parameter Menu: Antiarrhythmic & Anti-HIV Drugs**

- Includes 25 antiarrhythmic and 18 anti-HIV drugs
- Deuterated, co-eluting and stable internal standards
- 3PLUS1® and 6PLUS1® Multilevel Calibrator Sets
- Part of the modular system MassTox® TDM Series A
- The comprehensive parameter menu is continuously being developed

Visit www.chromsystems.com to find out how you can efficiently analyse up to 150 parameters with one column and one sample preparation method.

*Chromsystems – for safe diagnostics worldwide.*
Setting the standard for **accurate** Lp(a) testing

As a global leader in Lp(a) testing solutions, Randox understands the importance of standardization within Lp(a) measurement in order to deliver the ultimate in testing accuracy and quality of results. A working collaboration with the renowned research centre responsible for the development of the gold standard for Lp(a) testing, has led to the 5-point Randox Lp(a) calibrator being fully traceable to this gold standard for a wide range of routinely used clinical chemistry systems. Randox Lp(a) offers the laboratory superior accuracy and truly precise results, making it the only choice for Lp(a) measurement.

*Have confidence in your Lp(a) results, use Randox Lp(a)*
If you are just becoming familiar with Mass Spectrometry or if you want to take your Mass Spec testing to the next level, let AACC provide you with expertise you need from the convenience of your desk.

Experts and contributors to AACC’s flagship journal Clinical Chemistry provide technical advice, recommend published material for further research, and answer all participant questions in this three-part webinar series on Mass Spectrometry. Each program offers 1.0 ACCENT credit.

WEBINARS INCLUDE:

APRIL 29 Mass Spectrometry Applications in Designer Drugs of Abuse Testing

Marilyn A. Huestis, PhD, Senior Investigator; Chief, Chemistry and Drug Metabolism Section, National Institute on Drug Abuse, Intramural Research Program, National Institutes of Health, Biomedical Research Center, Baltimore, MD

WEBINAR SUPPORTED BY AN EDUCATIONAL GRANT FROM WATERS CORPORATION.

MAY 13 Mass Spectrometry 101

Thomas M. Annesley, PhD, Emeritus Professor in the Department of Pathology at the University of Michigan, Ann Arbor, MI

WEBINAR SUPPORTED BY AN EDUCATIONAL GRANT FROM WATERS CORPORATION.

JUNE 11 Post-analytical Optimization of Newborn Screening by Tandem Mass Spectrometry

Piero Rinaldo, MD, PhD, T. Denny Sanford Professor of Pediatrics and Professor of Laboratory Medicine and Pathology, Mayo Clinic, Rochester, MN

Learn from leading experts and stay informed – without travel expenses or time away from the office. For more information, individual webinar prices and to register, visit www.aacc.org/mass14

PURCHASE ALL 3 WEBINARS AND SAVE 15%

MEMBER PRICE: $455
NON-MEMBER PRICE: $575
Thinking about bringing clinical molecular testing into your lab, but aren’t sure where to start?

With its complexity, cost and quality issues, molecular testing can present many challenges. By attending this all-new course from AACC, you will receive all of the practical advice and tools you will need to get started on a plan to implement molecular testing in your clinical lab and achieve successful results.

- Learn from laboratory leaders and colleagues from various lab settings who have implemented clinical molecular testing programs
- Analyze the impact of molecular testing on your lab’s operations and future success
- Master the fundamentals of developing a business plan that supports molecular testing
- Hear perspectives from industry representatives on automation of molecular assays
- Take home valuable tools and information to apply right away

Professionals from labs of all types and sizes are encouraged to attend and benefit from this highly educational program.
New Developments in Diagnosing and Managing Gestational Diabetes
Donald Coustan, MD, Warren Alpert Medical School of Brown University, Division of Maternal-Fetal Medicine, Women & Infants Hospital of Rhode Island, Providence, RI

Personalized Medicine: An Update on HER2 Testing
Jonathan D. Marotti, MD, Assistant Professor of Pathology, Geisel School of Medicine, Dartmouth-Hitchcock Medical Center, Hanover, NH
Laura J. Tafe, MD, Assistant Professor of Pathology and Assistant Director of the Molecular Pathology Laboratory, Dartmouth-Hitchcock Medical Center, Hanover, NH

Assessing Cardiovascular Risk in Women Considering Menopausal Hormone Therapy
JoAnn Manson, MD, MPH, DrPH, Connors Center for Women's Health and Gender Biology and Harvard Medical School, Boston, MA

Mass Spec Applications in Designer Drugs-of-Abuse Testing
Marilyn Huestis, PhD, Intramural Research Program of the National Institute on Drug Abuse, Baltimore, MD

Mass Spectrometry 101
Thomas M. Annesley, PhD, University of Michigan Health Center, Ann Arbor, MI

Post-Analytical Optimization of Newborn Screening by Tandem Mass Spectrometry
Piero Rinaldo, MD, PhD, Mayo Clinic, Rochester, MN

The Drive to Define “Normal”: The 99th Percentile Value of Cardiac Troponin
Fred Apple, PhD, Hennepin County Medical Center and University of Minnesota School of Medicine, Minneapolis, MN

Stroke Biomarkers: Current Status, Future Promise
Robert Christenson, PhD, University of Maryland, Baltimore, MD

CVD Risk Prediction: The Evolving Role of Laboratory Testing
Paul Ridker, MD, Harvard Medical School, Cambridge, MA

Celiac Disease: Advances in Diagnosis and Testing
Melissa Snyder, PhD, Mayo Clinic, Rochester, MN

Progress and Challenges in Antiphospholipid Antibody Testing
Gabriella Lakos, MD, PhD, INOVA Diagnostics, San Diego, CA

Current Issues in Laboratory Testing for Rheumatoid Arthritis
Marvin Fritzler, PhD, MD, University of Calgary, Calgary, Alberta, Canada

For more information visit, www.aacc.org/clinchem14
Critical and Point-of-Care Testing:
Real World and Emerging Applications for Improved Clinical Outcomes

CPOCT 25th International Symposium
SEPTEMBER 17-20, 2014
PARADISE POINT CONFERENCE CENTER
SAN DIEGO, CA

The 25th International Symposium examines how technological advances in point-of-care testing and healthcare delivery trends are changing the face of clinical diagnostics and the quality of patient care. Learn from content experts and peers as they explore the practical and promising applications of point-of-care testing for clinical decision making. Sessions include:

- Point-of-Care and Molecular Diagnostics
- Point-of-Care and Infectious Disease
- Point-of-Care Testing for Assessment of Coagulation
- Point-of-Care Testing for Emergency Preparedness and Resource Limited Countries
- Practical Applications of Point-of-Care Testing: Data Driven Solutions for Improved Outcomes

The meeting promises a stimulating mix of scientific presentations, interaction with POCT experts from around the world, introduction to new technologies from leading companies in the field, and time to talk with colleagues in the warm, relaxed environment of Paradise Point Conference Center in San Diego, CA, USA.

REGISTER TODAY: WWW.AACC.ORG/CPOCT14

Sponsored by the AACC CPOCT Division in cooperation with CSCC and EFLM, and under the auspices of IFCC.

The conference is supported by educational grants from Accriva Diagnostics, Alere, Instrumentation Laboratory, Medica Corporation, Nova Biomedical Corporation, Radiometer, Roche, and Siemens Healthcare Diagnostics.
Available Now from AACC Press!

Quick Guide to Molecular Diagnostics

By D. Hunter Best, Elaine Lyon, Kristina A. Roberts, and Alex Valsamakis
2013, 234 pages, spiral binding
ISBN 9781594251597
Product # 7297
Price only $24; AACC Member $20

The Quick Guide to Molecular Diagnostics is intended for physicians, residents/fellows, allied medical health professionals, nonmedical professionals, and students who wish to better understand the complex field of molecular diagnostics. The Guide is intended to be a quick, informative reference for individuals who order molecular tests in the fields of genetics, oncology, and infectious disease. For each of these fields, information about common molecular diagnostic tests is provided to assist in ordering and results interpretation. Molecular laboratory techniques are also discussed to help readers better understand their advantages and limitations. The pocket size of this text offers immediate access when and where tests are ordered. Our experience suggests that this Guide will be a useful reference for individuals in many different fields.

HOW TO ORDER

ONLINE:
http://www.aacc.org
and click on the AACC Store link

CALL:
(800) 892-1400
or (202) 857-0717

FAX:
(202) 887-5093

MAIL:
AACC Customer Service
1850 K Street NW, Suite 625
Washington, DC 20006

www.aacc.org
Clinical Chemistry is pleased to announce a special upcoming theme issue on Molecular Diagnostics edited by Drs. Rossa W.K. Chiu, Frank R. Cockerill, Y.M. Dennis Lo, and Carl T. Wittwer titled “Molecular Diagnostics: A Revolution in Progress.” Clinical Chemistry, published by the American Association for Clinical Chemistry, is the most highly cited forum for peer-reviewed, original research in the fields of clinical chemistry and laboratory medicine.

The purpose of this issue is to highlight recent advances in molecular diagnostics that focus on either: (1) clinical applications that use molecular diagnostics to reach novel conclusions about disease and/or therapy; or (2) new technologies that improve high-volume needs, test turnaround time, comprehensive analysis, or ease of use.

Clinical Chemistry invites authors to submit original articles related to molecular diagnostics for potential publication in this special issue. In general, manuscripts must be quantitative rather than descriptive. Article selection will be based on the overall quality and potential impact of the manuscript.

Potential topics of interest include:

- New technologies that further advance the utility of molecular diagnostics
- Significant applications of molecular diagnostics that improve patient care
- Sample-to-answer platforms that can be used at the point of impact
- Informatics advances to analyze genomes, exomes, transcriptomes, epigenomes, or microbiomes
- Generic technologies that depend less on proprietary instruments and reagents
- Novel massively parallel sequencing approaches
- Methods and applications of cell-free nucleic acid analysis
- Guidelines for using specific molecular diagnostic techniques

Be a part of this exciting issue!

Submissions must be received through our online submission system at submit.clinchem.org no later than June 1, 2014. Your cover letter should express your interest in submitting your paper for consideration for the Molecular Diagnostics theme issue. Journal guidelines for submission apply as described in the Information for Authors on the submission website.
**THE CLINICAL TOXICOLOGY LABORATORY**

Contemporary Practice of Poisoning Evaluation, 2nd Edition

Edited by Tai Kwong, Barbarajean Magnani, Tom Rosano, and Les Shaw

This is an updated edition of the unique and successful textbook on laboratory evaluation of the poisoned patient. An outstanding group of experts in the fields of laboratory medicine, emergency medicine, and toxicology who herald from poison control centers and academic, governmental, and private laboratories have helped produce this new edition. The wide range of disciplines represented points to the very essence of the contemporary practice of toxicology: the dramatic advances in the care of the poisoned patient, the advent of regional poison centers, and the successful efforts of clinical laboratories to adapt new and effective technologies to support changing diagnostic and treatment modalities.

**HOW TO ORDER**

ONLINE: [http://www.aacc.org](http://www.aacc.org) and click on the AACC Store link

CALL: (800) 892-1400 or (202) 857-0717

FAX: (202) 887-5093


---

**Available Now from AACC Press**

**Quick Guide to Hematology Testing**

By Vishnu Reddy, Marisa B. Marques, and George A. Fritsma

The Quick Guide to Hematology Testing is a speedy reference for anyone who orders, performs, or interprets hematology laboratory tests, including complete blood counts, bone marrow aspirate and biopsies, flow cytometry, cytogenetics, and molecular diagnosis. Clear understanding of the significance of hematology laboratory results is critical, and awareness of the effect of confounding factors leads to clinically sound interpretations.

The Guide’s pocket size provides immediate access at the time and place that tests are ordered, performed, and interpreted. The text discusses benign and malignant conditions of the three cell lineages, including anemias, leukemias, and thrombocytopenia, emphasizing their diagnosis, treatment, and laboratory-based treatment monitoring. Disease descriptions and assays are adjacent so that all conditions may be correlated.

The extensively updated second edition has new sections and expands on newly described phenotypes and genotypes of hematologic disorders and new methods, providing a current list of cell markers and mutations.

**HOW TO ORDER**

ONLINE: [http://www.aacc.org](http://www.aacc.org) and click on the AACC Store link

CALL: (800) 892-1400 or (202) 857-0717

FAX: (202) 887-5093

Patient Safety Essentials for Laboratory Professionals Certificate Program

New online certificate program from AACC, with strategies and tools to implement patient safety measures.

- **An extensive program with a laboratory focus**, taught by experts.
- **Faculty with experience** furthering improvements for patient safety in their labs and communities.
- **Highlights** work culture elements that positively impact safety initiatives, risk management and quality improvement tools, error detection methods, and addressing personnel issues.

For information on content, special pricing for AACC members, and registration, please visit [www.aacc.org/cert_prog](http://www.aacc.org/cert_prog)
Clinical Chemistry Reprints

Contact Cadmus Reprints for digital or print copies

TOLL FREE
1-866-487-5625

OR EMAIL
cjsreprints@cadmus.com

Authors may also order reprints of their articles by contacting Cadmus Reprints at 1-866-487-5625

Advertising Representatives
Cunningham Associates

National Accounts Manager: CHARLIE MEITNER
Email: cmeitner@cunnasso.com

National Accounts Manager: JIM PATTIS
Email: jpattis@cunnasso.com

Production Manager: KATHY TAMALONIS
Email: ktamalonis@cunnasso.com

ADVERTISING
CORRESPONDENCE: 180 Old Tappan Road
Old Tappan, NJ 07675
Phone (201) 767-4170
Fax (201) 767-8065

ADVERTISER PAGE NO.
Immunodiagnostik Cover 4
ChromSystems 2A
Randox 7A
University of Utah 16A
Vanderbilt University 16A
The Quick Guide to Clinical Chemistry, Second Edition, is a pocket-sized reference intended for physicians, nurses, physician assistants, nurse practitioners, medical technologists, pharmacists, and residents and students in those professions. This Guide focuses on the selection and use of chemistry laboratory tests for diagnosing and managing emergent conditions such as poisonings, acute abdominal pain, sepsis, and acute myocardial infarction.

The Guide’s small size allows it to be used in situations when quick decisions must be made regarding the ordering and interpretation of chemistry tests. The emergent clinical conditions and the associated laboratory tests are described together for quick reference.

Although this Guide reviews several clinical conditions, it is not intended to be a comprehensive guide to all clinical laboratory tests, nor is it intended to dictate what constitutes reasonable, appropriate, or best care in a given situation. Comprehensive references for such information currently exist. Instead, it should be seen as it is clearly named, a “Quick Guide” to clinical chemistry.
The *Quick Guide to Immunoassay Interference* is a valuable resource for medical laboratory scientists and directors, physicians, and other clinical support personnel to identify how laboratory immunoassay results may be affected by different types of interference. The Guide’s pocket size provides immediate access about what to watch for and how to correct such aberrant results, which are now ever dependent on clinical laboratory results, and maintain the integrity of patient care.

Starting from the basics of both immunoassays and assay interference, the Guide presents various sources of assay interference: cross-reactivity, prozone effects, heterophilic antibodies, endogenous serum components, system components, and analyte heterogeneity. The Guide also includes the various sources of preanalytical interference and is intended to be used as a reference for the diagnostics and pharmaceutical industries with regard to choosing an assay design to minimize interferences and to product support specialists so they can respond to reports of erroneous results from their customers.

The Guide can be used to assist physicians, pharmacists, pathologists, physician assistants, and medical fellows, residents, and students in understanding not only how to detect erroneous immunoassay results before making clinical decisions based on them but how such interference can be resolved and correct results may be obtained. The information contained in this *Quick Guide* also clarifies laboratory assay utilization to help predict, diagnose, and monitor therapy for clinical conditions and disease.
Quick Guide to Endocrinology

By William E. Winter, Lindsay A. L. Bazydlo, and Neil S. Harris
2013, 189 pages, spiral binding
ISBN 9781594251573
Product # 7298
Price only $28; AACC Member $23

The Quick Guide to Endocrinology addresses the clinical presentation, pathophysiology, and laboratory testing required for diagnosing common endocrinologic problems seen by the laboratorian and clinician on a regular basis. The Guide focuses on disturbances involving the anterior and posterior lobes of the pituitary gland, the thyroid gland, the adrenal glands, the parathyroid glands, the ovaries, and the testes. A future Quick Guide will address issues relevant to diabetes mellitus.

Understanding the basic biochemistry and physiology of endocrine systems is critically important when the laboratorian serves as a consultant to the clinician. This Guide can help assist graduate students, medical students, medical technologists, and laboratory supervisors, as well as MDs and PhDs, in comprehending basic endocrinology. Endocrine disorders are common and affect all aspects of medicine involving psychiatrists to neurosurgeons, and the information found in this Quick Guide will help prepare the laboratorian to act as a consultant to all of these practitioners.
Download the Clinical Chemistry app via iTunes and Google Play.

Clinical Chemistry Trainee Council
traineecouncil.org

Sign up with our 30-second, 1-step registration at traineeecouncil.org

Also available in Chinese, Spanish and Portuguese

Content includes –
- Clinical Case Studies
- Webcasts and Courses
- Question Bank
- Pearls of Laboratory Medicine
- Q&A
- Podcasts and CouncilChat
Vitamin analysis with ID-Vit®

**ID-Vit®-Principle**

(prepared, diluted)
patient sample
+
medium

= 48 h
= 37°C
(Vit B<sub>6</sub>: 30°C)

- high vitamin concentration
- low vitamin concentration

**Microbiological microtiter plate assays:**

Quantification of vitamin bioactivity more meaningful than HPLC data!

**ID-Vit® assays:**

- Vitamin B<sub>1</sub> (Thiamin)
- Vitamin B<sub>2</sub> (Riboflavin)
- Niacin (Vitamin B<sub>3</sub>)
- Pantothenic acid (Vit. B<sub>5</sub>)
- Vitamin B<sub>6</sub> (Pyridoxin)
- Vitamin B<sub>12</sub>
- Folic acid
- Biotin (Vitamin H)

Time to dump your HPLC!