

# Northwest Medical Laboratory Symposium

Education | Networking | Exhibits

Speakers

Attendee

Exhibitors

Building a Better Healthcare World

Hematology

Chemistry

Microbiology

Phlebotomy

Molecular

**Lynnwood Convention Center  
Lynnwood, WA  
October 18-21, 2017**

**AMERICAN SOCIETY FOR CLINICAL LABORATORY SCIENCE, REGION IX  
ASCLS-WASHINGTON  
ASCLS-OREGON**

**AMERICAN MEDICAL TECHNOLOGISTS, WESTERN DISTRICT  
OREGON STATE SOCIETY OF AMERICAN MEDICAL TECHNOLOGISTS  
NORTHWEST STATE SOCIETY OF AMERICAN MEDICAL TECHNOLOGISTS**

## Welcome to the 2017 Northwest Medical Laboratory Symposium

It won't be long until the leaves on the trees begin showing their glorious fall colors, the temperatures begin cooling off and the prime autumn opportunity for continuing medical laboratory education and professional networking is upon us. The NWMLS committee, composed of medical laboratory professionals from throughout the northwest, has once again planned a dynamic program. The American Society for Clinical Laboratory Science (ASCLS) and the American Medical Technologists (AMT) invite you to join us in Lynnwood, WA for this year's Symposium October 18 – 21, 2017.

Our clients, patients, and colleagues in the allied health professions rightfully expect and deserve for us, as medical laboratory professionals, to maintain our professional credentials and competency. One means of doing this is to stay abreast of the latest developments in technology and testing. The NWMLS provides an excellent means of accomplishing this responsibility. Seminars covering topics in every aspect of laboratory medicine, from research to testing to management, are provided during this outstanding Symposium.

In addition to educational opportunities, you will not want to miss out on the chance to network with fellow laboratorians. This is your opportunity to gain refreshing encouragement from other medical laboratory professionals who are facing the same issues you face on a day-to-day basis.

The Exhibit Hall is not to be missed. This opportunity to meet laboratory industry vendors face-to-face and learn of the latest technological developments is always a highlight of the NWMLS. The industry representatives are available for you to visit with in a low intensity setting. They are happy to hear and respond to your questions. Please thank them for their continuing support of the NWMLS in the sponsorship of our speakers and breaks.

We extend a warm welcome to our Medical Laboratory Science students as they expand their knowledge, skills, and values in preparation to provide competent and ethical care. This is an excellent opportunity for you to develop a new awareness of the actual practice of clinical laboratory science and meet with scientists who are employed in many different areas and have many different roles that go beyond working in the hospital.

Please seriously consider this sincere invitation to join us at the Lynnwood Convention Center, Lynnwood, WA for this year's Symposium. We look forward to seeing you there.

Terese Abreu  
Director, ASCLS Region IX

Sheryl Rounsivill  
AMT Western District Councilor

---

***The 2017 Northwest Medical Laboratory Symposium Program and registration form are available on the Internet at the following URL***

***[www.asclswa.org](http://www.asclswa.org)***

***click on the NWMLS link***

***Updates and other information will be provided through this site.***

## 2017 NWMLS At A Glance

<b>Wednesday, October 18</b>	AM	1	2	3	4
	8:30 - 11:45 AM	Evidence Based Med Patient Safety Emergency Dept	Digital Cell Morphology Hem Quality Control	Antimicrobial Resistance	Transfusion Medicine and Therapeutic Apheresis
	<b>Exhibits: 11:45 AM – 2:15 PM</b>				
	PM	5	6	7	8
	2:15 - 5:30 PM	Acute Leukemia and Minimal Residual Disease	NT-proBNP Calibration Verification	Full Lab Automation and AI in Micro	Current Issues in Food Safety
<b>Thursday, October 19</b>	AM	9	10	11	12
	8:30 - 11:45 AM	Measuring Aspirin Inhibition of Platelet Thromboxane	Leadership Across Generations Accountable Leadership	On-demand Molecular Diagnostics in Age of Antimicrobial Stewardship	HLA System in Human Health and Disease
	<b>Exhibits: 11:45 AM – 2:15 PM</b>				
	PM	13	14	15	16
	2:15 - 5:30 PM	Natriuretic Peptide Testing and Nephilysin Inhibitors  Cardiac Troponin Testing  Biotin Interference	Epidemiologist and Laboratorian Interaction During a Communicable Disease Outbreak	Understanding Complement Mediated Diseases Identifying PNH and AHus Lab Perspective	Pediatric Acute Lymphocytic Leukemia – Journey to Diagnosis
<b>Friday, October 20</b>	AM	17	18	19	20
	8:30 - 11:45 AM	Practical Applications for Assessing Workplace Risks	Liquid Biopsy Testing  Procalcitonin  High Sensitivity Cardiac Troponin	Microbiology - Fast and Furious	Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma
	<b>Exhibits: 11:45 AM – 2:15 PM</b>				
	PM	21	22	23	24
	2:15 - 5:30 PM	Retirement - Is It in Your Financial Picture	Case Studies in Coagulation and Red Cell Disorders	Hemostasis - The Cas- cade, The Disease, The tests	Adoption and Integration of New, Emerging and Advanced Technologies in Infectious Disease
<b>Saturday, October 21</b>	AM	25	26	27	28
	8:30 - 11:45 AM	Keep Calm and Carry On	Collection of Hematology Pediatric Cases	MACRA and Phlebotomy's Impact on Patient Satisfaction	Surviving Instrument Downtime  Restructuring Workflow  Millennials in the Workforce
	PM	29	30	31	
	1:00 - 4:15 PM	Cytologic Evaluation of Body Fluids	Phlebotomy From the Perspective of the Phlebotomist and the Patient	Blood Bank Review for Non-Blood Bankers	

# Welcome to the 2017 Northwest Medical Lab Symposium

## Table of Contents

Welcome. . . . .	2
Grid . . . . .	3
Committee and Organizations. . . . .	5
Best Western Alderwood . . . . .	6
Lynnwood Convention Center . . . . .	7
Wednesday Sessions . . . . .	8
Thursday Sessions . . . . .	14
Friday Sessions . . . . .	21
Saturday Sessions. . . . .	27
Sponsors . . . . .	32
Exhibitors and Exhibit Hall Information . . . . .	33
Exhibitor Product List . . . . .	35
Registration Information . . . . .	36
Registration Form . . . . .	37
Membership Categories . . . . .	38
Special Notes . . . . .	39

### Registration Hours

Wednesday, Thursday, Friday  
 7:30 AM - 8:30 AM  
 1:30 PM - 2:15 PM

Saturday  
 7:30 AM - 8:30 AM  
 12:30 PM - 1:00 PM

### Session Times

Wednesday, Thursday, Friday  
 8:30 AM - 11:45 AM  
 2:15 PM - 5:30 PM

Saturday  
 8:30 AM - 11:45 AM  
 1:00 PM - 4:15 PM

### Lunch

Wednesday, Thursday, Friday  
 11:45 AM - 12:45 PM

Saturday  
 12:00 - 1:00 PM

### Exhibit Hours

Wednesday, Thursday, Friday  
 11:45 AM - 2:15 PM

### ***Earn P.A.C.E. contact hours at no charge!***

Obtain the exam in your registration packet or from the exhibit registration desk. Questions can be answered at the various booths in the Exhibit Hall over the three days. You can earn P.A.C.E. contact hours by successfully completing the exam. Turn in the exam at the Exhibits desk for grading and you will receive the session code. Plan to earn these extra CE hours!

## NWMLS Committee

General Chair	Leonard Kargacin
Program	Leonard Kargacin (Chair) Gaby Gonzalez Molly Morse Leslie Nakagawa Carol Wu
Exhibits	Brenda Kochis
Registration	Brenda Kochis
Program Design	Brenda Kochis
Finance	Toni Okada
Moderators	Roxanne Erskine
Hospitality	Chelsea Cheever
Sponsors	Gaby Gonzalez Shawna Martin
Webmaster	Brenda Kochis

## ASCLS - Region IX

Regional Director Terese Abreu

**Region IX Forum** Friday, October 20, 2017  
5:45 - 7:30 PM

### ASCLS-OR

President Ryan Howey  
President Elect  
Secretary Jacqueline Rice  
Treasurer Tiffany Mach  
Past President Patty DeTurk

ASCLS-OR Board Meeting  
Friday, October 20, 2017 Follows Region IX Forum

### ASCLS-Washington

President Shawna Martin  
President Elect Leslie Nakagawa  
Secretary Terese Abreu  
Treasurer Teresa Nguyen  
Past President Terese Abreu

ASCLS-WA Board Meeting  
Friday, October 20, 2017 Follows Region IX Forum

### CLSA

President Ashley Frost  
President Elect  
Secretary Tony Gregston  
Treasurer Stephanie Randrup  
Past President Cassandra Brooks

### Did You Know?

*P.A.C.E. Contact Hours are available for attending the Exhibits. All you have to do is correctly answer 80% of the questions on a quiz that we give you before you go into the Exhibits. The answers to these questions are available at the various booths. And you don't have to rush, since the questions can be answered over more than one Exhibit session.*

*Great way to earn P.A.C.E. contact hours at no charge!*

## Western District of American Medical Technologists Officers and Business Meetings

Western District Councillor Sheryl Rounsivill

### OSSAMT

President Marilyn Albertsen  
President-Elect Louise Isbell  
Secretary Audrienne Whitley  
Treasurer Edna Anderson

### OSSAMT

Board and Business Meeting to be Determined.

### NWSSAMT

President Roxanne Erskine  
Secretary Danielle Rathbun  
Treasurer D'Maurier Barnhart

NWSSAMT Board Meeting and Business Meeting  
To be Determined

# Best Western Alderwood Hotel



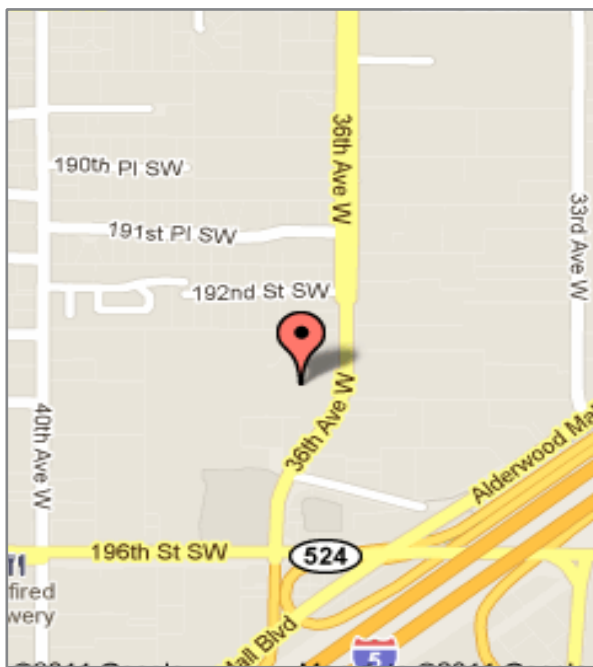
## Hotel Information

Special group rates are available at the Best Western Alderwood Hotel through



**October 6, 2017**

After that date, room rates will be at the discretion of the hotel. Please mention that you are with the Northwest Medical Laboratory Symposium when making your reservations by telephone at 425-775-7600.



## Best Western Alderwood Hotel

19332 36th Ave W  
Lynnwood, WA 98036  
Phone: 425-775-7600  
Fax: 425-771-3087

Website: <http://www.bestwesternwashington.com/hotels/best-western-alderwood/>

The Hotel will honor the following overnight room rates:

\$89.99 for single bed  
\$92.99 for double bed

Hotel room rates are subject to applicable state and local taxes.

**Reservations:** Call the hotel at 1-800-205-6935 or 1-425-775-7600. You must request the NWMLS group rate to obtain the listed room rate. The group rate will be honored until October 6, 2017.

There is no charge for parking at the Best Western Alderwood Hotel.

# Lynnwood Convention Center



## Lynnwood Convention Center

3711 196th Street SW  
Lynnwood, WA 98036

Toll Free: 888-778-7155  
Fax: 425-778-7965

Website: [www.lynnwoodcc.com](http://www.lynnwoodcc.com)

The Lynnwood Convention Center has 600 free parking places. All sessions will be at the Convention Center. There is no charge for parking at the Lynnwood Convention Center.

### DIRECTIONS FROM SEATTLE:

- Take I-5 North; Take Exit 181B (Alderwood Mall)
- Take left onto Poplar Way (first light)
- Take left onto 196th Street
- Drive West over the freeway, Convention Center is on the right.
- For the Alderwood Best Western Hotel, turn right onto 36th Avenue W (The Best Western Alderwood is on the left just North of the Lynnwood Convention Center.)

### DIRECTIONS FROM EVERETT:

- Take I-5 South; Take Exit 181 West
- Drive West one block, Convention Center is on the right.
- For the Alderwood Best Western Hotel, turn right onto 36th Avenue W (The Best Western Alderwood is on the left just North of the Lynnwood Convention Center.)

### DIRECTIONS FROM EASTSIDE/BELLEVUE

- Take I-405 Northbound
- Merge onto I-5 Southbound; Take Exit 181 West
- Drive West one block, Convention Center is on the right.
- For the Alderwood Best Western Hotel, turn right onto 36th Avenue W (The Best Western Alderwood is on the left just North of the Lynnwood Convention Center.)

**Session  
1**

8:30 - 11:45 am

Intermediate

3 contact hours

**Importance of Evidenced Based Medicine in Point of Care Testing**

**- Ellis Jacobs, PhD, DABCC, FACB**

Alere Inc  
Teaneck, NJ

There is a need for Evidence-Based POCT. Clinicians, staff, and laboratorians need guidance in applying POCT in the most effective manner for patient benefit. This guidance should be based on a concurrence of the scientific evidence to date. The development and conclusions of the National Academy of Clinical Biochemistry's Laboratory Medicine Practice Guideline – Evidence Based Practice for Point of Care Testing, as well as more recent evidence, will be reviewed.

- ✓ Explain Evidence Based Medicine, the systematic review process and the levels of evidence,
- ✓ Discuss the need for the application of EBM to POCT, and
- ✓ Give examples of where the use of POCT is not supported by an EBM review.

**Patient Safety: A Quality System Approach to POCT QC/QA**

The quality management system approach applies a core set of "quality system essentials" to all operations in any health care service's path of workflow. There are multiple QA issues with POCT and, due to the rapid availability of results, POCT data can be seen and acted upon prior to the application of QC checks or other external mechanism for assuring the validity of test results. The majority of errors in laboratory testing are pre-analytical in nature, followed by post-analytical, with only 15% occurring during the analytical phase. However, in POCT, even though there has been an overall reduction in errors, the majority of errors occur during the analytical phase. POCT technology has evolved to the level of automation, intelligent automation that detects single point failures and automatically stops the analytical process. Never the less, QC procedures are an essential part of the Quality Management System and must be able to detect mistakes to enable immediate correction. Surrogate and non-surrogate QC are not completely redundant and do not detect all assay errors. It is necessary that the sources of error in the POCT analytical process be identified and an individualized quality control plan be developed that mitigates the risks of error to acceptable levels.

- ✓ Describe what a Quality Management System is and what Quality System Essentials are,
- ✓ Describe the influence of POCT on the probability of occurrence of pre-analytical, analytical and post-analytical errors and explain the critical factors to consider when deciding the appropriate POCT QC system to implement, and
- ✓ Discuss the nature of QC procedures and be able to describe the differences between surrogate and non-surrogate Quality Control.

**Why Knowing Now Matters in the Emergency Department**

There have been significant increases in emergency room visits across the US and delays in the ED lead to poor outcomes. There is an association between waiting times and short term mortality and hospital admission. Laboratory turnaround time can impact ED operations and, based on simulation modeling, the best performance is predicted when the TAT is 40 minutes or less. The needs of every ED are different and this presentation will look at the impact of Point of Care testing on the provision of medical care and ED operations in three clinical conditions: chest pain (cardiac), sepsis (critical care), and infectious diseases.

- ✓ Describe the association between ED waiting times and short mortality and hospital admissions,
- ✓ Describe the operational benefits that can be achieved with a rapid chest pain disposition protocol, and
- ✓ Describe the role of lactate in the identification and monitoring of sepsis and explain the impact on key ED operational metrics of rapid infectious disease testing.

---

**Sponsor: Alere Inc**

---



**Session  
2**

8:30 - 11:45 am

Intermediate

3 contact hours

---

**Digital Cell Morphology, Improving the Quality in the Hematology Clinical Laboratory with Esoteric Case Studies.**

**- Scott Dunbar, BS, MS**

CellaVision  
Flower Mound, TX

Employing Digital Cell Morphology using Artificial Neural Networks is a tool which will standardize a very subjective area of the laboratory. Furthermore using this technology can be coupled with remote review software which will allow for more efficient pathology consults. This presentation will describe the technology in the software for both peripheral smears and body fluid Cyto-Spin Differentials. The second half of the presentation will be filled with numerous educational and esoteric case studies.

- ✓ Describe how artificial neural networks can standardize WBC and RBC Morphology,
- ✓ Discuss how remote review software can digitize a glass slide and make it readily available to clinicians, and
- ✓ Visualize numerous case studies of Sepsis, RBC abnormalities and Leukemias and Lymphomas.

---

***Sponsor: CellaVision***

---

**Quality Control for Hematology**

**- Kathy Davidson Altig, MT(ASCP)**

Beckman Coulter  
West Linn, OR

Quality Control is a process that monitors the accuracy and precision of results through the use of control specimens. It is important for clinical laboratory personnel to understand the basic concepts used in quality control with a working knowledge of the primary elements. This presentation will focus on these elements, as they apply to Hematology.

- ✓ Explain the Importance of Quality Control and the Concept of Quality Assurance, define the terms Accuracy and Precision, Calculate Mean, Mode, SD, CV,
- ✓ Discuss the importance of Peer Review (IQAP), and use these statistics to improve your lab's QA, and
- ✓ Describe how to use XB as a continuous Quality Control for your lab.


---

***Sponsor: Beckman Coulter***

---

## Wednesday, October 18, 2017

<p><b>Session 3</b></p> <p>8:30 - 11:45 am</p> <p>Intermediate</p> <p>3 contact hours</p>	<hr/> <p><b>Antimicrobial Resistance and What We Need to Do</b></p> <p>- <b>John Lynch, MD, MPH</b> University of Washington/Harborview Seattle, WA</p> <p>A review and update on antimicrobial resistance circulating locally and globally and the keys to responding effectively. Discussion will include: background and history of antimicrobial resistance (AR); the status of AR in bacteria, fungi, and viruses globally; why AR is an ongoing problem to include epidemiology; what can be done about current AR and how to prevent it; antimicrobial stewardship (AS) as a response; and examples of AS activities and supporting data.</p> <ul style="list-style-type: none"><li>✓ Describe the problem of antimicrobial resistance,</li><li>✓ List the pathogens most commonly associated with resistance, and</li><li>✓ Discuss a coordinated response to the problem of antimicrobial resistance.</li></ul>
<p><b>Session 4</b></p> <p>8:30 - 11:45 am</p> <p>Intermediate</p> <p>3 contact hours</p>	<p><b>Topics in Transfusion Medicine and Therapeutic Apheresis</b></p> <p>- <b>Kirsten Watson Alcorn, MD</b> Bloodworks Northwest Seattle, WA</p> <p>- <b>David Lin, MD, MHA</b> Bloodworks Northwest Seattle, WA</p> <p>- <b>Jackie Degler, MT(ASCP)</b> Bloodworks Northwest Seattle, WA</p> <p>Interesting cases at the intersection of transfusion and apheresis therapies for patients with complex needs amidst the many routine “type and screens” there are patients who keep us on our toes and help us learn. In this session, we will use cases to illustrate some less common issues in transfusion and apheresis and the role of interdisciplinary patient care. A Primer on Therapeutic Apheresis will also be presented that will include clinical and technical aspects of four therapeutic apheresis modalities: (1) plasma exchange, (2) red cell exchange, (3) white blood cell depletion, and (4) platelet depletion.</p> <ul style="list-style-type: none"><li>✓ Recognize the importance of interdisciplinary communication to provide test result interpretation, develop recommendations for immediate and longer-term transfusion and apheresis therapies.</li><li>✓ Anticipate transfusion needs for some types of complex patients and the roles of both transfusion support and therapeutic apheresis in some clinical scenarios.</li><li>✓ Describe the therapeutic intention of each apheresis modality and the foundational apheresis principles.</li></ul> <hr/> <p style="text-align: center;"><b>Sponsor: Bloodworks NW</b></p> <hr/>

<p><b>Session 5</b></p> <p>2:15 - 5:30 pm</p> <p>Advanced</p> <p>3 contact hours</p>	<p style="text-align: center;"><b>Acute Myeloid Leukemia And Minimal Residual Disease Detection</b></p> <p><b>- Yi Zhou MD. PhD</b> Dept. of Lab Med., UWMC Seattle, WA</p> <p>The presentation will introduce diagnostic paradigm of acute myeloid leukemia and minimal residual disease detection post treatment. Morphology, flow cytometry, and molecular testing will be discussed.</p> <ul style="list-style-type: none"><li>✓ Describe the diagnostic criteria of acute myeloid leukemia,</li><li>✓ Discuss the pre-treatment risk factors that guide treatment, and</li><li>✓ Discuss the importance of minimal residual disease and how to detect it.</li></ul> <p style="text-align: center;"><b>Monitoring Minimal Residual Disease In Acute Leukemia: Technical Challenges And Clinical Implication</b></p> <p><b>- Xueyan Chen, MD, PhD</b> University of Washington Seattle, WA</p> <p>Minimal residual disease (MRD) has unequivocal prognostic value in acute leukemia. Monitoring MRD using sensitive techniques, including multiparametric flow cytometry (MFC), quantitative polymerase chain reaction (qPCR)-based methods and high-throughput next-generation sequencing (NGS), has improved the assessment of treatment response and risk stratification for clinical management. This session will review methodological principles of MRD assays and discuss the clinical implications of monitoring MRD for risk stratification and directing further therapy.</p> <ul style="list-style-type: none"><li>✓ List the common methods of MRD assay</li><li>✓ Discuss the clinical implication of MRD assessment</li><li>✓ Discuss the practical issues of MRD assessment</li></ul> 
--	--

**Don't Forget!**  
**Visit the Exhibits**  
**11:45 AM to 2:15 PM**

Get free contact hours P.A.C.E. by completing an exam at the Exhibit

Hall

**Session  
6**

2:15 - 5:30 pm

Intermediate

3 contact hours

**NT-proBNP: The Gold Standard in Heart Failure**

- **Jessica Wilson, BSc**  
Response Biomedical Corp.  
Vancouver, BC

- **Setanta Moran**  
Response Biomedical Corp.  
Vancouver, BC

Heart failure is a condition in which the heart cannot pump enough blood to meet the body's needs, causing a range of symptoms that are non-specific, making diagnosis difficult, and creating a burden on the health care system.

Measurement of several biomarkers in patients' blood, including natriuretic peptides BNP and NT-proBNP, aid physicians in making this diagnosis. However, recent advances in HF treatment to include the use of the drug Entresto have had an impact on how these biomarkers are used.

- ✓ Discuss the basic mechanisms of Heart Failure,
- ✓ Describe the methods by which Heart Failure is diagnosed, and
- ✓ Describe the impact of Entresto on the use of biomarkers in HF diagnosis.

---

**Sponsor: Response Biomedical Corp.**

---

**Calibration Verification: Who, What, Where, When, Why, How & Did I Pass or Fail**

- **Glenn Mitchell**  
AUDIT MicroControls, Inc.  
Eatonton, GA

The presentation will introduce and review the ins and outs of Calibration Verification including definitions, applications, analyzing results, interpreting data, and troubleshooting. Data and graph examples will be presented as well. Several examples of pass and fail data will be presented

- ✓ Describe the what, when, why's, and how's of calibration verification,
- ✓ Interpret CV data properly to help determine if your CV passes or fails, and
- ✓ Review troubleshooting protocol for failed CV.

---

**Sponsor: AUDIT MicroControls, Inc.**

---



## Wednesday, October 18, 2017

### Session 7

2:15 - 5:30 pm

Intermediate

3 contact hours

### Automated Specimen Processing, Full Laboratory Automation and Artificial Intelligence in Microbiology Faster Actionable Results and Improved Turnaround Time

- **Nathan Ledeboer, PhD**

WI Diagnostic Labs & Froedtert Hospital  
Milwaukee, WI

- **Lori Bourassa, PhD MPH**

Assistant Director,  
University of Washington Medical Center Microbiology

Learn about automated specimen processing, full laboratory automation and groundbreaking innovations in Digital Microbiology! Automation is revolutionizing and changing the course of traditional Microbiology. In the last year, COPAN has developed strong algorithms that will improve turnaround times dramatically. The algorithms are backed by hundreds of thousands of samples tested across multiple laboratories in the world. During this event, we have an excellent group of thought leaders as part of our panel who will share their experiences with automated specimen processing, digital Microbiology and artificial intelligence algorithms to read and interpret plates.

- ✓ Discuss the benefits of liquid based microbiology and how this can help automate specimen processing,
- ✓ Discuss key benefits of full laboratory automation which help Microbiology labs deliver faster, actionable results, and
- ✓ Cite study results from multi center studies validating automated plate reading.

---

**Sponsor: COPAN Diagnostics**

---

### Session 8

2:15 - 5:30 pm

Intermediate

3 contact hours

### Current Issues in Food Safety

- **Janet Anderberg, RS**

Washington State Dept of Health  
Tumwater, WA

This session will discuss some current issues in food safety - especially those that affect our state. How food is handled and prepared makes a difference! Find out what is making people sick right now - and why. Salmonella works in mysterious ways and *E coli* certainly isn't limited to hamburgers. Perfringens is more of a threat than you think and there are important things we can do to prevent Norovirus in our communities and in our homes. Recent outbreak stories will be shared - not only what happened, but why! You won't look at your lunch or dinner the same way again!

- ✓ Discuss how to create awareness of food safety events in our communities,
- ✓ Outline real food safety risks, and
- ✓ Describe foodborne illness prevention strategies.

---

**Sponsor: Washington State Department of Health**

---

**Session  
9**

8:30 - 11:45 am

Advanced

3 contact hours

**Clinical Importance Of Measuring Aspirin Inhibition  
Of Platelet Thromboxane In Cardiovascular Disease  
Management And Prevention**

**- Luis R. Lopez, MD**

Corgenix Inc./ Orgentec, GmbH  
Broomfield, CO

In this session, the speaker will review the effect of aspirin on platelet cyclooxygenase COX-1 and thromboxane (TxA2) inhibition, and its use in cardiovascular disease prevention. He will also review current laboratory measurement of urinary 11dhTxB2, a stable inactive metabolite of TxA2, to assess aspirin response as a risk factor of cardiovascular disease including mortality.

- ✓ Describe the role of thromboxane, platelet function, aspirin and cardiovascular disease,
- ✓ Discuss laboratory measurement and significance of urinary thromboxane 11dhTxB2, and
- ✓ Describe the association of platelet inhibition by aspirin and cardiovascular risk and prevention.

**Sponsor: Corgenix Inc./ Orgentec, GmbH**

events 

No conference would be complete without a meeting app. The NWMLS has an App for this meeting.

**EventsXD**

This App will work on any mobile device and is a great resource for planning your sessions. Download the Events XD App from your app store; works on Apple and Android devices. Use the search term "Lab" and you will easily find the Northwest Medical Lab Symposium.

Plan a schedule that is  
**UNIQUELY YOU**

**Session  
10**

8:30 - 11:45 am  
Intermediate  
3 contact hours

**Leadership Across Generations: Understanding How to Leverage the Differences**

- **Jackie Lohdefinck**  
ARUP Laboratories  
Salt Lake City, UT

Leadership Across Generations: Understanding How to Leverage the Differences  
Organizations are facing the challenge and change of engaging five generations in the workplace. Understanding differences in generations is fundamental in building a successful workplace, and leading a multi-generational workforce is an art in itself. In this session we'll talk about:

- Generations represented in our workforce today
- Converging trends
- For each generation:
  - Characteristics and skills
  - Values
  - Engagement strategies
  - Retention strategies

Behaviors and communication skills to help you be a successful leader

- ✓ Identify and explain possible generational gaps, commonalities, and communication barriers across generations,
- ✓ Use a generational lens to gain insight into interactions with and among others and understand your own core values and behaviors, and
- ✓ Discuss opportunities that allow each individual to contribute to their full potential.

**Accountable Leadership: Managing and Motivating Difficult Employees**

Management comes with many challenges, and one of the most difficult can be managing difficult employees. In this session we'll focus on how to build a more effective relationship with your difficult employees and motivate them to be productive and successful. We'll talk about:

- What do we mean by accountability?
  - Recognizing five key triggers of conflict
  - Understanding the framework for influencing behavior
  - Four steps for effective problem solving
- 
- ✓ Discuss the importance of addressing conflict in the workplace,
  - ✓ Describe a four-step process for effective problem solving, and
  - ✓ Describe effective techniques for dealing with difficult people, and apply practical tips for handling conversations about difficult behaviors.

---

**Sponsor: ARUP Laboratories**

---

**Session  
11**

8:30 - 11:45 am

Intermediate

3 contact hours

**On-Demand Molecular Diagnostics in the Age of Antimicrobial Stewardship and Quality Reporting**

**- David Nicolau PharmD, FCCP, FIDSA**

Hartford Hospital  
Hartford, CT

**- Susan Nicolau MT (ASCP)**

Eastern Connecticut Healthcare System  
Manchester, CT

Recent new guidelines regarding quality metrics and reduction in the use of antimicrobials have opened a Pandora's Box of questions regarding how to achieve all of these requirements. This session will look at the impact of on-demand molecular diagnostics, the treatment decisions behind the results, and how they impact the entire healthcare continuum.

- ✓ Describe antimicrobial stewardship and how on-demand molecular diagnostics can be utilized to help achieve these goals,
- ✓ Discuss CMS and JCAHO quality metrics and how on-demand molecular diagnostics can impact those measurements, and
- ✓ Outline a new vision of how to tackle these new requirements.

---

**Sponsor: Cepheid**

---

**Exhibits**

Did you get to see all the companies in the Exhibit Hall?  
More chances Thursday and Friday.

Don't forget to work on your Exhibit Hall Exam. A great opportunity to earn contact hours for your effort!





**Thursday, October 19, 2017**

**Session  
12**

8:30 - 11:45 am

Intermediate

3 contact hours

**The HLA System in Human Health and Disease**

- **Paul Warner, MT(ASCP), PhD, D. (ABHI)**

Bloodworks Northwest  
Seattle, WA

The Human Leukocyte Antigen (HLA) system is the most polymorphic genetic system ever described in humans. This session will be divided into three distinct topics:

- 1) A description of the HLA system, including it's pivotal role in shaping and driving adaptive immune responses.
- 2) How HLA testing is utilized in solid-organ transplantation.
- 3) How HLA testing is utilized in transfusion support (i.e. immune-refractory platelet recipients) and disease association/pharmacogenomics.

- ✓ Briefly describe the 'natural' function of the HLA system,
- ✓ Explain how HLA testing is important in solid-organ transplantation, and
- ✓ Describe a few examples of HLA testing as it relates to disease associations or drug hypersensitivity reactions.

---

**Sponsor: Bloodworks NW**

---

**Don't Forget!**

**Visit the Exhibits**

**11:45 AM to 2:15 PM**

Get free contact hours P.A.C.E. by completing an exam at the Exhibit

Hall

Seminar speakers have given me great "out of box" ideas to try."

**Session  
13**

2:15 - 5:30 pm

Intermediate

3 contact hours

**Update On Natriuretic Peptide (NP) Testing In The Era Of  
Neprilysin Inhibitors.**

**- Katherine M. Soreng, PhD**

Siemens Healthineers  
Tarpon Springs, FL

NP testing is useful in both the diagnosis and management of heart failure (HF). The recent availability of a new HF drug based in part on neprilysin inhibition (Entresto) has created concerns on the interpretation of NP testing in these patients. This presentation will review NP testing (BNP/NTproBNP) and discuss existing data on the potential impact of neprilysin inhibition.

- ✓ Describe the biologic production and function of NP's,
- ✓ Discuss the utility of NP testing in the assessment of HF, and
- ✓ Discuss any impact on NP testing for patients on a neprilysin inhibitor-based therapy.

**Cardiac Troponin (Ctn) Testing: The Impact Of Sensitivity  
And Clinical/Analytic Factors Impacting Interpretation For  
An AMI Diagnosis**

The increased availability of highly sensitive cTn assays supports improved patient management of chest pain patients. This presentation will review both the advantages and concerns when implementing highly-sensitive cTn testing. A discussion of current guidelines and the similarities and differences in the use of cTnI vs. cTnT will be presented.

- ✓ Discuss the production of cTn and similarities and differences between cTnI and cTnT,
- ✓ Discuss the use of highly-sensitive cTn in the earlier diagnosis of AMI, and
- ✓ Review clinical and analytic concerns that can impact interpretation of cTn results.

**Biotin Interference: Should Labs And Clinicians Be  
Concerned?**

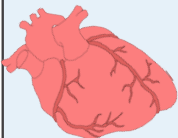
Biotin supplementation is on the rise for both therapeutic and cosmetic reasons. The potential for interference of biotin on immunoassay testing will be discussed, including the clinical impact on interpretation. Factors predisposing assay design to interference from biotin will be reviewed, along with literature-reported cases of inaccurate results associated with biotin ingestion.

- ✓ Review the structure of biotin and its relevance to immunoassay design,
- ✓ Discuss the increased usage of biotin supplementation and the potential for interference in some immunoassays, and
- ✓ Review literature-based reports of interference and the associated risk of clinical mismanagement.

---

**Sponsor: Siemens Healthineers**

---



# Thursday, October 19, 2017

## Session 14

2:15 - 5:30 pm

Intermediate

3 contact hours

### The Interaction of Epidemiologists and Laboratorians During A Communicable Disease Outbreak

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>- <b>Mike Boysun, MPH, MPA</b><br/>Washington State Department of Health<br/>Shoreline, WA</li> <li>- <b>Tashina Robinson, MPH</b><br/>CDC Antibiotic Resistance Public Health<br/>Associate</li> <li>- <b>Sopheay Hun, MBA, MLS, ASCP</b><br/>Antimicrobial Resistance Regional Lab<br/>(ARLN) Supervisor</li> <li>- <b>Beth Melius, RN, MN, MPH</b><br/>Foodborne/Enteric Disease<br/>Epidemiologist</li> <li>- <b>Ailyn Pérez-Osorio, PhD</b><br/>Molecular Epidemiologist</li> <li>- <b>Mimi Precit, PhD</b><br/>ARLN Fellow, CDC</li> </ul> | <ul style="list-style-type: none"> <li>- <b>Vivian Hawkins, PhD, MPH</b><br/>Legionella/Influenza Epidemiolo-<br/>gist</li> <li>- <b>Jeff Lahti, BS</b><br/>Legionella Laboratory Lead<br/>Microbiologist</li> <li>- <b>Amy J. Poel, MPH</b><br/>Vaccine Preventable Disease<br/>Surveillance Coordinator</li> <li>- <b>Misty Lang, BS</b><br/>Virology Laboratory Lead Micro-<br/>biologist</li> <li>- <b>Hanna Oltean, MPH</b><br/>Zoonotic Disease Epidemiologist</li> </ul> |
|---|---|

The speakers in this session will present on a diverse range of epidemiology and laboratory linkages. The role of epidemiology in antibiotic stewardship and relationship to the Washington State Department of Health's new Antimicrobial Resistance Regional Laboratory Network will be described. The interaction of foodborne/enteric disease epidemiology investigations and laboratory diagnostics will be discussed as well as the importance of culture isolates for public health protection. Case and outbreak examples involving interactions between epidemiologists and laboratorians will be presented for cases involving Legionnaires' disease, mumps, and emerging infectious diseases in Washington State will be discussed. Due to the speed at which emerging diseases of concern change, there may be some slight modifications to the presentation

- ✓ Describe the linkages between the clinical and public health laboratories and epidemiology,
- ✓ Describe the elements of a communicable disease investigation and response; and
- ✓ Discuss the importance of clinical isolates for public health protection.

Time	TOPIC	PRESENTERS
20 min	Epidemiology and Laboratory Partnerships	Wayne Turnberg, PhD, MSPH
30 min	Antibiotic Stewardship / Antimicrobial Resistance Regional Laboratory Network	Tashina Robinson, MPH Sopheay Hun, MBA, MLS, ASCP Mimi Precit, PhD
30 min	Foodborne/Enteric Disease Outbreaks and Response	Beth Melius, RN, MPH Ailyn Pérez-Osorio, Ph.D.
30 min	Legionella: Epidemiology Investigations and Laboratory Analysis	Vivian Hawkins, PhD, MPH Jeff Lahti, BS
30 min	Mumps Outbreak Response and Laboratory Analysis in Washington State	Amy J. Poel, MPH Misty Lang, BS
30 min	Emerging Infectious Diseases in Washington	Hanna Oltean, MPH

**Session  
15**

2:15 - 5:30 pm

Advanced

3 contact hours

**Understanding Complement Mediated Diseases/Identifying  
PNH & Ahus Laboratory Perspective**

- **Paul Eastvold MD**  
INBC/Blood Systems Incorporated BSI  
Spokane, WA

Gain a better understanding of two potentially fatal, complement mediated diseases: paroxysmal nocturnal hemoglobinuria (PNH) and Atypical Hemolytic Uremic Syndrome (Ahus). Specimen and tests sent to the laboratory are critical in identification and diagnosis for these diseases.

- ✓ Describe the pathophysiology of two potentially fatal, complement mediated diseases: Paroxysmal Nocturnal Hemoglobinuria and Atypical Hemolytic Uremic Syndrome,
- ✓ Discuss laboratory tests and specimens that are useful for identification and diagnosis of diseases, including High sensitivity Flow Cytometry (HSFC), smears, and ADAMTS-13 activity and
- ✓ Recognize the importance of laboratory findings through case study presentation.

---

**Sponsor: Alexion**

---

**Session  
16**

2:15 - 5:30 pm

Intermediate

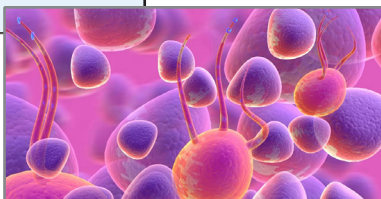
3 contact hours

**Pediatric Acute Lymphocytic Leukemia – Journey to Diagnosis**

- **Karen M. Chisholm, MD, PhD**
- **Billy Davis, MT(ASCP)**
- **Janice R. Hall, BS MT(ASCP)**  
Seattle Children's Hospital  
Seattle, WA

Our lab at Seattle Children's Hospital has a team approach for handling the testing involved in the diagnosis of acute leukemia. Critical departments are located close together to facilitate the sharing of samples and streamlining hand offs. This session will outline bone marrow sample handling from specimen collection to processing and testing in our lab. Flow cytometry and cytogenetics testing will be illustrated using a representative case study.

- ✓ Describe the importance of proper handling of bone marrow specimens throughout the pre-analytic, analytic, and post-analytic phases of lab testing,
- ✓ Describe flow cytometry testing performed for leukemia diagnosis, and
- ✓ Outline the process for cytogenetics testing from culturing to G-band and FISH analysis.



**Session  
17**

8:30 - 11:45 am

Intermediate

3 contact hours

**Practical Applications for Assessing Workplace Risks**

- **Denise Bender, MSPH**  
University of Washington  
Seattle, WA
  
- **Steve LaCroix, MS, CBSP**  
Washington State Department of Health  
Shoreline, WA
  
- **Michael P. Owen, BS**  
Washington State Department of Health  
Shoreline, WA

Chemical and biological hazards pose safety and health risks to workers across many work settings such as laboratories, maintenance, and manufacturing. Over 46,000 American workers experienced non-fatal workplace injuries or illnesses resulting from exposure to harmful substances or environments in 2014, while 390 lost their lives.\*

A proper risk assessment for all potentially hazardous agents—whether biological, chemical, radioactive, or physical—must be conducted before establishing protocols, implementing controls, and communicating a mitigation plan. This course is designed to give participants a step-by-step approach to assess all risks in the workplace.

\* Bureau of Labor Statistics NONFATAL OCCUPATIONAL INJURIES AND ILLNESSES REQUIRING DAYS AWAY FROM WORK, 2014, Bureau of Labor Statistics 2014 Census on Fatal Occupational Injuries

- ✓ Describe the difference between a hazard and a risk, and the primary steps of assessment in the workplace and sources, events, causes, and consequences of workplace risks associated with chemical and biological agents,
- ✓ Describe how to prioritize workplace risks by establishing a risk ranking system comparing the severity and likelihood of potential events and how to conduct an effective job hazard analysis, and
- ✓ Outline resources and tools to increase competency for responding to biological and chemical risks and ways to report and communicate the current state of risks and their management in the workplace



**Session  
18**

8:30 - 11:45 am

Intermediate

3 contact hours

**Liquid Biopsy Testing in Management of Non Small Cell Lung Carcinoma: The cobas® EGFR Mutation Test v2 IVD**

- **Sarah L. Moseley, PhD**  
Roche Diagnostics  
Indianapolis, IN

During this session we will review the emerging power of the new breakthrough technology of liquid biopsy plasma testing as a tool for managing patients with solid tumors. We will begin to understand the complex challenges faced by clinicians in the management of Non Small Cell Lung Carcinoma (NSCLC) and how the first FDA approved liquid biopsy plasma assay can provide non-invasive alternatives for selecting patients for targeted therapeutics and can assist clinicians in testing patients for resistance to therapy. By the end of this session, we will have a clear understanding of performance of the FDA approved claim for this cobas® EGFR Mutation Test v2 plasma assay as a companion diagnostic for TARCEVA®: and TAGRISSO®.

- ✓ Describe the disease state of NSCLC and current landscape of challenges in patient management.
- ✓ Give an overview of liquid biopsy technology and future potential for management of patients with solid tumors.
- ✓ Describe the clinical trial data for FDA claims of the cobas® EGFR Mutation Test v2 plasma assay as a companion diagnostic for TARCEVA®: and TAGRISSO®.

**Procalcitonin (PCT) Use in Sepsis Management and Antibiotic Treatment Decisions**

- **M. Laura Parnasm PhD, DABCC**  
Roche Diagnostics  
Indianapolis, IN

This session is an overview of sepsis definition, symptoms, diagnostic criteria, and treatment. We will review clinical evidence of procalcitonin utility in diagnosis, prognosis, progression risk assessment, and guiding antibiotic treatment decisions in sepsis patients and discuss the application of procalcitonin in clinical routine, including procalcitonin measurements and interpretations of results.

- ✓ Describe basic characteristics of sepsis and understand the current guidelines of sepsis diagnosis and management,
- ✓ Demonstrate the knowledge of procalcitonin utility in sepsis diagnosis, monitoring, and treatment decisions, and
- ✓ Incorporate procalcitonin measurement and interpretation in the overall sepsis management.

---

**Sponsor: Roche Diagnostics Corporation**


---

**\*\*\*Third Topic on next page\*\*\***

## Friday, October 20, 2017

<p><b>Session 18 cont.</b></p> <p>8:30 - 11:45 am</p> <p>Intermediate</p>	<p><b>**continued**</b></p> <p><b>Implementing High-sensitivity Cardiac Troponin: Laboratory and Clinical Keys to Success</b></p> <p>- <b>Carmen L. Wiley PhD, DABCC</b> Roche Diagnostics Indianapolis, IN</p> <p>Strategies for successful implementation of high-sensitivity cardiac troponin (hs-cTn) will be presented from the perspectives of Laboratory Medicine. Transitioning from contemporary troponin to hs-cTn assay will involve defining analytical characteristics and rigorous quality control/assurance, education and evidence-based hs-cTn interpretation and applications for the stakeholder groups. A collaborative team-based approach for awareness, agreement, adoption, and adherence will be emphasized.</p> <ul style="list-style-type: none"><li>✓ Discuss the importance of using the 99th percentile cut-off to improve patient outcomes,</li><li>✓ Identify and discuss an implementation plan to transition from contemporary to a hs-cTn assay, and</li><li>✓ Identify the elements for and development a clinical algorithm for the awareness, adaptation, and adherence to requirements of a hs-cTn assay from the laboratory and clinical stakeholder perspectives.</li></ul> <hr/> <p style="text-align: center;"><b>Sponsor: Roche Diagnostics Corporation</b></p> <hr/>
<p><b>Session 19</b></p> <p>8:30 - 11:45 am</p> <p>Intermediate</p> <p>3 contact hours</p>	<p><b>Microbiology - Fast and Furious</b></p> <p>- <b>Jacky Chow, PhD, D(ABMM)</b> MultiCare Health System Tacoma, WA</p> <p>The research and application of microbiology have been vigorous over the past decade. The advancement of knowledge and technology in the field has promoted efficient clinical practice as well as accurate, rapid diagnoses of emerging/re-emerging infectious diseases. The speaker will provide updates on methodology and practice in clinical microbiology. Recent highlights from the literature on laboratory function, epidemiology, and clinical practice will be reviewed. The pros and cons of the latest technologies in microbial diagnostics will be discussed.</p> <ul style="list-style-type: none"><li>✓ Describe the knowledge and current practice in clinical microbiology,</li><li>✓ Discuss the updates in clinical microbiology and their applications in medicine, and</li><li>✓ Discuss the potentials and limitations of the new technologies in clinical microbiology.</li></ul>

## Friday, October 20, 2017

<p><b>Session 20</b></p> <p>8:30 - 11:45 am</p> <p>Intermediate</p> <p>3 contact hours</p>	<p style="text-align: center;"><b>Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma</b></p> <ul style="list-style-type: none"><li>- <b>Kerstin Edlefsen, MD</b></li><li>- <b>Emily Glynn, MD</b> University of Washington Medical Center Seattle, WA</li></ul> <p>Chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL) is one of the most common lymphoid malignancies in adults and has one of the strongest heritable components of all malignancies. CLL/SLL is often identified in the clinical laboratory as a part of a peripheral smear review, but the clinical implications of the diagnosis can be very different depending on the clinical scenario. Why do some patient's require therapy while others don't? How can the laboratory help clinicians and patients know which CLL/SLL will require therapy? In addition, some patient's have small abnormal populations, termed 'monoclonal B cell lymphocytosis,' that don't meet diagnostic criteria for CLL/SLL. What is the clinical significance of these populations? Why are they different from CLL/SLL?</p> <ul style="list-style-type: none"><li>✓ Describe the epidemiology, diagnosis and treatment of CLL/SLL,</li><li>✓ Describe important prognostic markers in CLL/SLL and how they are evaluated in the clinical laboratory, and</li><li>✓ Define monoclonal B cell lymphocytosis (MBL), understand how it differs from CLL/SLL, and understand its clinical significance.</li></ul>
<p><b>Session 21</b></p> <p>2:15 - 5:30 pm</p> <p>Basic</p> <p>3 contact hours</p> 	<p style="text-align: center;"><b>Retirement – Is It In Your Financial Picture?</b></p> <ul style="list-style-type: none"><li>- <b>Teresa Brokaw, CFP, CRPC, CDFP</b> O'Neal &amp; Brokaw Private Retirement Group Lynnwood, WA</li><li>- <b>Damon Novelli</b> Legg Mason Global Asset Management Group Lynnwood, WA</li></ul> <p>A Five Step System to help Clinical Laboratory Science Practitioners manage their money, design their life, and create their future. Prosperity is about being successful ~ not just with your money, but with your life, and this workshop focuses on both! This workshop seeks to help you clarify your vision of your life and your money, refresh your motivation and take action. The end result? You'll leave with everything you likely need to potentially transform your financial vision into a reality. In today's world, it's difficult to get through a single day without hearing dramatic commentary on what happened with the stock market today, what might happen to interest rates tomorrow. This session will focus on giving you a fresh perspective on all that ~ one that is focused on you. In our time together, we'll talk about new ideas you can use to manage your money, design your life, and create your future.</p> <ul style="list-style-type: none"><li>✓ Describe how the Five Step System can help you manage your money, design your life, and create your future, and</li><li>✓ Discuss how you can use the latest developments in brain science to help you get closer to achieving your financial goals.</li></ul> <hr/> <p style="text-align: center;"><b>Sponsor: O'Neal &amp; Brokaw Private Retirement Group</b></p> <hr/>



**Friday, October 20, 2017**

**Case Studies in Coagulation and Red Cell Disorders**

**Session  
22**

2:15 - 5:30 pm

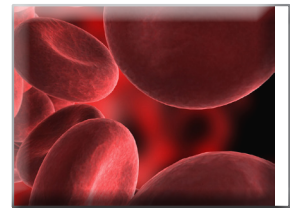
Advanced

3 contact hours

- **Daniel E. Sabath, MD, PhD**  
University of Washington School of Medicine  
Seattle, WA

Dr Sabath will present interesting cases of patients with coagulation or red blood cell disorders. These cases will be used to illustrate important concepts in the role of the laboratory in helping to diagnose and guide treatment for these patients.

- ✓ Explain the proper use of testing for thrombophilia disorders,
- ✓ Describe the role of the laboratory in evaluating patients taking anticoagulant medications, and
- ✓ Develop an approach to diagnosing patients with possible red cell disorders.



**Comments from past seminar attendees about the NWMLS**

*Knowledgeable, interactive, fun, good speakers, takes lots of questions. Enjoyed and learned a lot.*

*Really enjoyed this. Love the enthusiasm and passion for the topic. Very interesting and exciting.*

*Great speakers, lots of new info. Updates. These are the kinds of speakers we need. They explain current and new information. Speaker provided many helpful examples.*

**Session  
23**

2:15 - 5:30 pm

Intermediate

3 contact hours

**Hemostasis is Unique – The Cascade, The Disease, and  
The Tests – All Mixed Up**

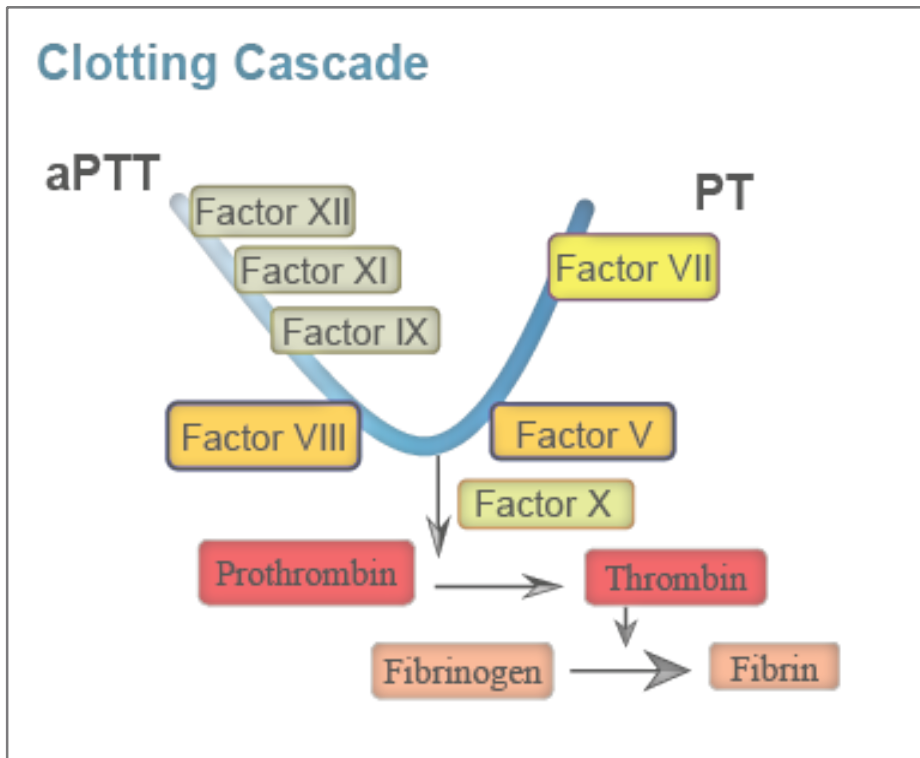
**- James (Jim) DeMase, BS**

Precision BioLogic  
Dartmouth, Nova Socita

This session will review the basics of hemostasis in the coagulation lab and enhance the basic understanding of hemostasis and thrombosis describing the stages of hemostasis as well as common bleeding and clotting disorders. We will define hemophilia, and review its symptoms, diagnosis, and common treatments. The methods and clinical application of mixing studies will be outlined. Case studies will be used throughout the workshop to help attendees relate their learnings to real-world situations.

- ✓ Describe the stages of hemostasis as well as common bleeding and thrombotic disorders,
- ✓ Explain the types of hemophilia, symptoms, diagnosis, and common treatments, and
- ✓ Relate the methods and clinical application for a mixing study and the steps to perform one.

**Sponsor: Precision BioLogic**



**Session  
24**

2:15 - 5:30 pm

Basic

3 contact hours

**Connecting the Dots: Adoption and Integration of New, Emerging, and Advanced Technologies within Clinical and Public Health Laboratory Diagnostics and Surveillance Testing of Infectious Diseases**

- **Xuan Qin, PhD, D(ABMM)**  
Seattle Children's Hospital  
Seattle, WA
- **William Glover PhD, D(ABMM), MT(ASCP)**  
WA Department of Health Public Health Laboratories, Shoreline, WA
- **Blaine Rhodes, MS**  
WA Department of Health Public Health Laboratories
- **John Thompson PhD, MPA, MPH**  
WA Department of Health Public Health Laboratories

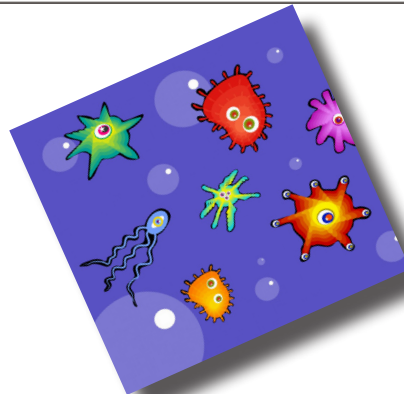
This session will describe laboratory workflows pertaining to the adoption and integration of new, emerging, and advanced technologies within Clinical and Public Health Laboratory diagnostic and surveillance testing. Speakers will discuss diagnostic and/or surveillance testing where integration has occurred or is currently being evaluated. Considerations, barriers, and benefits associated with the process of adopting and integrating various technologies into testing workflows will also be discussed. Discussion of basic methodologies, test utilization, relevant specimen types, test results and examples of improved outcomes will also take place during the course of this session. Staff from the WA DOH Public Health Laboratories will discuss plans, evaluations, and integration of advanced technologies in Microbiology; newborn screening for Severe Combined Immunodeficiency (SCID); and biomonitoring of humans for environmental contaminants.

- ✓ Describe examples where adoption and integration of new, emerging, or advance technologies have occurred,
- ✓ Discuss considerations, barriers, and benefits to adopting and integrating new technologies in the clinical or public health laboratory and
- ✓ Give examples of improved efficiency or patient outcomes as a result of adoption and integration of new, emerging, or advance technologies

---

***Sponsor: Part of this session is sponsored by the Washington State Department of Health Public Health Laboratories***

---



**Session  
25**

8:30 - 11:45 am

Basic

3 contact hours

**Keep Calm and Carry On**

- **Brooke Zimmers, MA**

- **Mimi Harvey PhD**

Shoreline Community College  
Shoreline, WA

What happens to your ability to listen when you are really stressed out? Do you approach every conflict situation in the same way? What strategies do you have to help yourself calm down? Have you noticed that the quality of your communication directly impacts the quality of your life?

This dynamic and interactive workshop challenges you to examine your own listening skills under pressure and your conflict management styles. You will leave with practical skills to help you navigate difficult situations when you are stressed. Ultimately the goal is to improve the overall quality of your life.

- ✓ Discuss several mindfulness techniques that will be useful for a stressful work environment,
- ✓ Identify and be able to put into practice nonviolent communication techniques focused on listening, and
- ✓ Discuss informed choices about their approach to conflict given the context.

**Session  
26**

8:30 - 11:45 am

Intermediate

3 contact hours

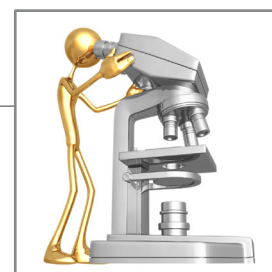
**Collection of Pediatric Hematology Cases**

- **Min Xu, MD, PhD**

Seattle Children's Hospital  
Seattle, WA

This session will highlight a series of unique and interesting cases in pediatric hematology. Included will be cases on pediatric acute lymphoblastic leukemia, acute myeloid leukemia in Down syndrome patients, familial myelodysplastic syndrome, bone marrow findings in patients with systemic lupus erythematosus, G6PD deficiency, and others.

- ✓ Discuss the diagnosis and prognosis of pediatric acute lymphoblastic leukemia and the characteristics of acute myeloid leukemia in Down syndrome patients,
- ✓ Describe GATA2 mutation related genetic disorders, as well as specific bone marrow findings in patients with systemic lupus erythematosus, and
- ✓ Describe iatrogenic hemolysis in patients with G6PD deficiency.



**Session  
27**

8:30 - 11:45 am

Advanced

3 contact hours

**MACRA (Medicare Access and CHIP Reauthorization Act of 2015) and Phlebotomy's Impact on Patient Satisfaction**

- **J. Michael O'Bryan, MD, MHA**  
Sarstedt, Inc.  
Newton, NC

The presentation provides an evidence-based analysis of the new governmental regulations regarding quality and how phlebotomy can either support or penalize a healthcare facility. Also explained is how specimen rejection leads to specific and measurable negative impacts on patient care, patient satisfaction, and the hospital's bottom line. Based on the latest medical literature, Dr. O'Bryan presents new best practices to increase patient satisfaction eliminate these sample quality problems improve patient satisfaction and decrease costs associated with specimen rejection.

- ✓ Describe how blood collection directly correlates to the quality of patient care outcomes on the HCAHP survey,
- ✓ Discuss how clotted samples, re-draws and pre-analytical error can interrupt workflow and result in lower patient turnover; which results in net loss, and
- ✓ Outline new best practices to achieve improved patient care for the healthcare professional and the hospital alike.

---

**Sponsor: Sarstedt**

---



**Handouts**

Handouts are only available online at [www.asclswa.org](http://www.asclswa.org). Several weeks before the seminar, registrants will receive an email from [BrenKoch@comcast.net](mailto:BrenKoch@comcast.net) with session confirmations and instructions for accessing the handouts. Be sure to print them and bring them with you to the meeting. No handouts will be available onsite.

**Session  
28**

8:30 - 11:45 am

Intermediate

3 contact hours

**Surviving Instrument Downtime**

- **Tina J Batsch MT (ASCP)**  
Newport Hospital and Health Services  
Newport, WA

If you have ever worked in a lab, then chances are you have experienced instrument downtime. This session will begin with an example of a worse case scenario result of an instrument being down. Next, back up and work around procedures will be discussed. Finally, a look at the aftermath and how instrument downtime effects the areas of billing and coding, result reporting, and the impact it had on the budget.

**Restructuring of Workflow in the Lab in Today's Tech Shortage Workforce**

Are you spending too much money on contracted temporary staff or running into too much overtime and not enough help? This session points out some options that can help reorganize the workload. We will look at job codes as well as look at waived, moderate-complexity, or high-complexity tests. Finally a look at what to consider if contracted staff is used for staffing.

**Millennials In Today's Workforce**

By 2030 it is predicted that 75% of the workforce will be comprised of Millennials! This session will define what the Millennial generation is and the impact it has in today's workforce. Time will be spent defining characteristics of other generations and how a team can work together in a busy lab.

- ✓ Define what instrument downtime is,
- ✓ List several options or ideas on how to distribute workload, and
- ✓ Discuss how to work with the different generations in the lab.

---

**Sponsor: Newport Hospital and Health Services**

---



# Saturday, October 21, 2017

<p><b>Session 29</b></p> <p>1:00 - 4:15 pm</p> <p>Intermediate</p> <p>3 contact hours</p>	<p style="text-align: center;"><b>Cytologic Evaluation of Body Fluids</b></p> <p>- <b>Annette Sabath, MD</b> Kaiser Permanente Seattle, WA</p> <p>The speaker will provide a review of major principles of laboratory body fluids evaluation, including physiology of various body fluids formation and diseases association. There will be an emphasis on cytological evaluation with proper collection, fixation and preparation requirements; review of normal and abnormal cell components of body fluids, and expanded cytomorphological rules and patterns to tell benign from malignant cells and their mimickers.</p> <ul style="list-style-type: none"><li>✓ Describe the basic physiology of body fluids formation and the association/s of major diseases with abnormal body fluid formation,</li><li>✓ Identify appropriate methods for body fluid collection and requirements for body fluids processing in the laboratory for Cytological evaluation and identify normal cells in various body fluids, and</li><li>✓ Discuss the major principles and approach to cytomorphological evaluation of cells to tell benign from malignant.</li></ul>
<p><b>Session 30</b></p> <p>1:00 - 4:15 pm</p> <p>Intermediate</p> <p>3 contact hours</p>	<p style="text-align: center;"><b>The Phlebotomy Experience: From the Perspective of the Phlebotomist and the Patient</b></p> <p>- <b>Gerald Harmon, MT(ASCP)</b> Kaiser Permanente Washington Bellevue, WA</p> <p>In this session we will look at the complete blood draw. From the perspective of the phlebotomist, we will review the importance of good technique and proper handling and processing of the specimen. From the perspective of the patient, we will focus on what makes an exceptional blood draw experience. We will take customer service to another level and introduce how to develop patient expectation of high reliability: Safety, Quality, and Service.</p> <ul style="list-style-type: none"><li>✓ Discuss what are the steps that make a good blood draw from the perspective of the phlebotomist,</li><li>✓ Discuss what are the steps that make a good blood draw from the perspective of the patient, and</li><li>✓ Discuss what is necessary to produce a Culture of Reliability.</li></ul>

**Session  
31**

1:00 - 4:15 pm

Intermediate

3 contact hours

**Blood Bank Review for Non-Blood Bankers**

- **Terese M. Abreu, MA, MLS(ASCP)<sup>CM</sup>**

Heritage University  
Toppenish, WA

This blood banking session is for those of you who haven't stepped foot in a BBK department since getting certified. Learn more than the nurses know and far less than needed to be an SBB in this walk down memory lane with ABO, the King of systems; Rhesus, the grand poo-bah; the naughty Kidds; and Lewis, the blood system wanna be, just to name a few. We will review basic theory and technical information then try our hand at the fun stuff solving antibody ID panels. The review will also touch on some of the newer innovations happening in transfusion medicine today.

- ✓ State the patient indications and contraindications for transfusion of each product,
- ✓ Name the major blood group systems and the antibody characteristics for each system, and
- ✓ Discuss three new technologies in today's blood banking departments.



I really value exchanging information with those who attend seminars from all over the region and also appreciated the real spectrum of attendees - from students in the local Medical Technology program just getting started, to people who have been in the field for years and are looking for new ideas for their laboratories and/or to brush up on their skills, to a laboratorian developing next-generation diagnostic methods at a local biotechnology company.

.....Lisa (McDonnel) Klingler.....



# **Our Awesome Sponsors**

The 2017 Northwest Medical Laboratory Symposium would like to extend its sincere thanks to the following companies and organizations for their support.



***Alere***

***Alexion***

***ARUP***

***Audit MicroControls***

***Beckman Coulter***

***Bloodworks Northwest***

***CellaVision***

***Cepheid***

***Copan Diagnostics***

***Corgenix Inc./ Orgentec, GmbH***

***Luminex***

***Michigan State University Biomedical Laboratory Diagnostics  
Online Master's Degree and Certificate Programs***

***Newport Hospital and Health Services***

***O'Neal & Brokaw Private Retirement Group***

***Precision BioLogic***

***Response Biomedical***

***Roche Diagnostics***

***Sarstedt***

***Siemens Healthineers***

***Washington State Department of Health Public Health  
Laboratories***

# EXHIBITORS & EXHIBIT HALL INFORMATION

The leading manufacturers and distributors will once again gather in the Exhibit Hall at the Lynnwood Convention Center to display their wares. This will be the 33rd year they have participated in the Northwest Medical Laboratory Symposium to provide access for Clinical Laboratorians to the newest products and to demonstrate the ability for aiding in the diagnosis and health care of the public. In addition, some companies will be bringing their demonstration van to display their larger pieces of equipment.

The vendors and their representatives are an integral part of our meeting and provide sponsorship for the continuing education sessions and other activities during this meeting. It is with the help and support from the laboratory supply companies that a volunteer group of individuals from the professional societies are able to arrange this Symposium.

As laboratory professionals, you do not have to register for the Symposium in order to view the displays in the Exhibit Hall. When you come to the Exhibit Hall, sign in on the log sheets and pick up a name badge and join the Committee in thanking the vendors for their support. The following companies have registered for space. For the latest information, please visit the vendor websites. Links may be found at [www.asclswa.org](http://www.asclswa.org), click on "NWMLS" link, then on "Exhibits".

Abbott Diagnostics	Hettich Instruments
Accelerate Diagnostics	Instrumentation Laboratory
Alexion	Lab Corporation of America
ARKRAY	Luminex Corporation
ARUP Laboratories	McKesson Lab Solutions
AUDIT MicroControls, Inc	MEDTOX Diagnostics
BD	Mindray North America
Beckman Coulter	Nikon Instruments Inc/Inphase Scientific
BioMerieux, Inc.	Olympus America, Inc.
Bio-Rad Laboratories	Ortho Clinical Diagnostics
Bloodworks Northwest	Polymedco, Inc.
Cepheid	Precision BioLogic, Inc.
Copan Diagnostics, Inc.	RADIOMETER AMERICA
Corgenix Orgentec Diagnostics	Samaritan Health Services
Delivery Express, Inc.	SCIEX
Diasorin, Inc.	Siemens Healthineers
Diasorin Molecular	Stago
General Water Technologies	Streck
Global Focus Marketing and Distribution / Immuno Concepts	Sysmex
Hardy Diagnostics	Terumo BCT
Helmer Scientific	Thermo Fisher Scientific
Henry Schein Medical	University of Washington
	WSLH Proficiency Testing

---

## EXHIBIT HOURS

Wednesday, October 18	Exhibit Opening	11:45 AM – 2:15 PM
Thursday, October 19		11:45 AM – 2:15 PM
Friday, October 20	Exhibit Closing	11:45 AM – 2:15 PM

## EXHIBITOR PRODUCT LIST

List is updated as more companies sign up to exhibit. Check the website, [www.asclswa.org/](http://www.asclswa.org/)  
 For Exhibit Information contact Brenda Kochis, Email: [BrenKoch@comcast.net](mailto:BrenKoch@comcast.net)

<b>Abbott Diagnostics</b>	Procalcitonin Assay, Syphilis Assay, Architect Instruments
<b>Acccelerate Diagnostitcs</b>	Accelerate Pheno system PhenoTest BC+ kit
<b>Alexion</b>	
<b>ARKRAY</b>	Versatile Urine Analysis System AUTION ELEVEN AE-4020
<b>ARUP Laboratories</b>	
<b>AUDIT MicroControls, Inc</b>	Linearity DROP LQ Blood Glucose Linearity FD D-Dimer bioMerieux VIDAS and miniVIDAS
<b>BD</b>	BD Barricor Mechanical Separator Tube - Chemistry Plasma collection tube
<b>Beckman Coulter</b>	DxC 700 AU
<b>BioMerieux, Inc.</b>	VIRTUO Blood Culture System FAN Plus blood culture media PCT for Antimicrobial Stewardship
<b>Bio-Rad Laboratories</b>	
<b>Bloodworks Northwest</b>	Blood Bank Services and Products
<b>Cepheid</b>	Xpert Xpress FLU/RSV & Xpert Xpress Strep A
<b>Copan Diagnostics</b>	FecalSwab, ESwab, SnotBuster
<b>Corgenix Orgentec Diagnostics</b>	
<b>Delivery Express, Inc.</b>	Courier Service; Delivery Service; Warehousing; Driver Coverage
<b>Diasorin Molecular</b>	
<b>DiaSorin, Inc.</b>	
<b>Global Focus Marketing and Distribution Immuno Concepts</b>	Image navigator, S2450
<b>Hardy Diagnostics</b>	GramPRO 80 Automated Gram Stain Instrument by QuickSlide GramPRO 1 Automated Gram Stain Instrument by C. diff (Clostridium difficile) Banana Broth
<b>Helmer Scientific</b>	MLR102
<b>Henry Schein Medical</b>	Cepheid GeneXpert ERBA microwell processor
<b>Hettich Instruments</b>	Centrifuges for clinical, research, and industrial applications

## EXHIBITOR PRODUCT LIST

List is updated as more companies sign up to exhibit. Check the website, [www.asclswa.org](http://www.asclswa.org)  
 For Exhibit Information contact Brenda Kochis, Email: [BrenKoch@comcast.net](mailto:BrenKoch@comcast.net)

<b>Instrumentation Laboratory</b>	TOP 50 Series Hemostasis Analyzer HIT Assay, for rapid assessment of HIT Liquid Reagents/24 hour controls GEM5000 Blood Gas Analyzer
<b>Laboratory Corp of America</b>	
<b>Luminex Corporation</b>	ARIES System; ARIES HSV 1&2 Assay ARIES GBS Assay; ARIES Flu A/B & RSV Assay Verigene System; Verigene RP Flex Test Verigene Gram-Positive Blood Culture Verigene Gram-Negative Blood Culture
<b>McKesson Lab Solutions</b>	
<b>MEDTOX Diagnostics</b>	
<b>Mindray North America</b>	BC-5390 BC-3600 BS-480 BA-800M
<b>Nikon Instruments Inc/Inphase Scientific</b>	Eclipse Ci-L LED microscope DS Fi3 and L4
<b>Olympus America, Inc</b>	
<b>Ortho Clinical Diagnostics</b>	Insulin assay
<b>Polymedco, Inc.</b>	Pathfast Analyzer
<b>Precision BioLogic, Inc.</b>	CRYOcheck Pooled Normal Plasma CRYOcheck Normal Donor Set CRYOcheck Factor Deficient Plasmas CRYOcheck CorPac
<b>RADIOMETER AMERICA</b>	
<b>Samaritan Health Services</b>	
<b>SCIEX</b>	
<b>Siemens Healthineers</b>	
<b>Stago</b>	Max Generation of Coagulation Instruments 24-hour Coag Controls; Heparin Anti-Xa Assays Customer Corner
<b>Streck</b>	The MINI-CUBE & CUBE 30 TOUCH, automated instruments for erythrocyte sedimentation rate testing in EDTA tubes.
<b>Sysmex</b>	
<b>Terumo BCT</b>	
<b>Thermo Fisher Scientific</b>	
<b>WSLH Proficiency Testing</b>	Body Fluid Cell Count - IRIS Respiratory Multiplex Panel Blood Gases/Electrolytes/Metabolite with Hgb/Hct for i-STAT Lymes IgM

## Registration General Information

### To Register by Mail:

Complete the registration form and mail the registration form and check payable to **NWMLS** to:

2017 Northwest Medical Laboratory Symposium

Brenda Kochis

44 West 26th Avenue

Spokane, WA 99203-1818

If questions:

Contact: BrenKoch@comcast.net (email contact is preferred)

Phone: 509-939-8445 (leave message) Call before 8 pm please.

**Registration mail postmark by date: September 25, 2017** This assures that your form will be delivered in time for us to provide you with the information to access the handouts. Registration is still available after this date, just allow for mail time.

### To Register Online:

Go to [www.asclswa.org](http://www.asclswa.org) and click on the **NWMLS** tab then click on **Registration**. Click on **“Online Registration”** to go to the online form. Credit cards can be used to pay for registration.

- Registrants using the online form must have a completed registration by **October 9, 2017** to receive lunch if eligible.
- **Lunch** is provided for those that register for two sessions (morning and afternoon) on the same day. Lunch is not provided for those that register for one session a day or for those that register onsite.
- **Handouts** for all sessions will only be available online. Registrants will be sent the web address, user-name and password to access the handouts. Please print your email address clearly.
- **All sessions** are approved for P.A.C.E. credits.
- **Hotel reservations:** See the website for more detailed information. Please call the hotel for reservations or register online. Ask for the “Northwest Medical Laboratory Group Rate” to get the seminar rates. Rates will be available until **October 6, 2017** after which they will revert to standard hotel rates. See page 6 for more information.
- **No “NWMLS” Registration refunds** will be issued.
- **Fees are by session.** Each session is 3 hours (half day). Please register for the membership category that you qualify for. More information about fee categories are on the website at [www.asclswa.org](http://www.asclswa.org) tab: NWMLS, or on page 38.

### Special Member Registration Rates

Any person currently a member in good standing of the following organizations can qualify for special member registration rates for the meeting:

- AABB (American Association of Blood Banks)
  - AACC (American Association for Clinical Chemistry)
  - ASC (American Society of Cytology)
  - ASCP (American Society of Clinical Pathologists) Laboratory Professional Membership Category
- NOTE: Certification only through ASCP does NOT qualify you for “Special Member” rates.**
- ASCT (American Society for Cytotechnology)
  - ASH (American Society of Hematology)
  - ASM (American Society of Microbiology)
  - CLMA (Clinical Laboratory Management Association)

# Registration Form

**2017 Northwest Medical Laboratory Symposium**  
 October 18 - 21, 2017  
 Lynnwood, WA

**Online registration and credit card payment is available at  
[www.asclswa.org](http://www.asclswa.org)  
 or  
 Mail this form with a check.**

First Name \_\_\_\_\_ Last Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City/State/Zip \_\_\_\_\_  
 Day Phone \_\_\_\_\_ Evening Phone \_\_\_\_\_  
 Institution \_\_\_\_\_  
 City/State \_\_\_\_\_  
 Email Address \_\_\_\_\_

**Are you willing to serve as a moderator?**  Yes  No

**Circle the sessions you will be attending.**

Wednesday Oct 18	AM	1	2	3	4
	PM	5	6	7	8
Thursday, Oct 19	AM	9	10	11	12
	PM	13	14	15	16
Friday, Oct 20	AM	17	18	19	20
	PM	21	22	23	24
Saturday, Oct 21	AM	25	26	27	28
	PM	29	30	31	

Category	# Sessions	Fee/session	Total Fee
<b>ASCLS/AMT Professional/Technical</b> .....		\$55.00	\$
ASCLS # _____ AMT # _____			
<b>Special Member</b> .....		\$70.00	\$
__AABB __AACC __ASC __ASCT __CLMA __ASM __ASH __ASCP Member number _____			
<b>Non-Member</b> .....		\$85.00	\$
<b>Phlebotomist</b> .....		\$35.00	\$
<b>Student</b> .....		\$25.00	\$
<b>Total Fee</b> .....			\$

Mail with check to  
**2017 NWMLS**  
 Brenda Kochis  
 44 West 26th Avenue  
 Spokane, WA 99203-1818

Full payment in U.S. Dollars must accompany each mailed registration. Make check payable to **NWMLS**  
**Mail by September 27 to assure timely arrival**

**OR**

Online registration with credit card payment is available at  
[www.asclswa.org](http://www.asclswa.org)

# Registration Fee Categories

Fees are listed for each attendance category. The list below defines those categories.

## Attendance Categories

**Member:** Any person who is a current member in good standing of the American Society for Clinical Laboratory Science (ASCLS) or the American Medical Technologists (AMT). Please list your membership number in the appropriate space on the registration form. New members are eligible for member rates. To join please see the information on the website: [www.asclswa.org](http://www.asclswa.org).

### **Special Member:**

Any person currently a member in good standing of the following organizations:

- AABB (American Association of Blood Banks)
  
- AACC (American Association for Clinical Chemistry)
  
- ASC (American Society of Cytology)
  
- ASCP (American Society of Clinical Pathologists)  
Laboratory Professional Membership Category  
NOTE: Certification through ASCP only does NOT qualify you for  
“Special Member” rates.
  
- ASCT (American Society for Cytotechnology)
  
- ASH (American Society of Hematology)
  
- ASM (American Society of Microbiology)
  
- CLMA (Clinical Laboratory Management Association)

**Student:** A student is defined as any person who is engaged at least half-time in a recognized program leading to either an associate’s or bachelor’s degree in a clinical laboratory science or one who is in a recognized Clinical Laboratory Internship program.

**Phlebotomist:** A phlebotomist is defined as any person whose primary responsibility is phlebotomy. Medical Assistants and AMT’s RMA are eligible for Phlebotomist fees.

# Special Notes

## General Information

Casual dress is appropriate for all sessions. There will be no smoking in any of the sessions.

Cell phones must be turned off during the sessions.

Your name badge is required for admission to all sessions and to the Exhibit Hall. Please wear your name badge at all times.

## Meeting Room Assignments

The session room assignments will be printed on the session sheet in your registration packet. A floor plan will be available at the registration desk.

## Message Center

A message board will be maintained at the registration desk for Emergency messages. The phone number Lynnwood Convention Center is 425-775-7600.

## Hospitality

In keeping with tradition, all exhibitors will participate in combined hospitality functions in the Exhibit Hall. **There will be no individual hospitality suites.**

## Updates

Updates will be posted on the website at [www.asclswa.org](http://www.asclswa.org)

Please check for session updates and or cancellation information.

## P.A.C.E.®

P.A.C.E.® credits have been approved for all appropriate sessions.

ASCLS-WA is approved as a provider of continuing education programs in the clinical laboratory sciences by the ASCLS P.A.C.E.® program. ASCLS-WA will use CE Organizer for documentation of continuing education credits. Please make note of the P.A.C.E.® number and of the session number that will be given to attendees in each session after the session break. Without this information, the attendee will not be able to obtain their electronic certificate.

## Handouts ONLY Available On-line

To keep registration rates as low as possible, the Northwest Medical Laboratory Symposium will no longer provide copies of the session handouts on-site at the meeting. Session handouts will be available for download at the ASCLS-WA website (<http://www.asclswa.org>). Click on the "NWMLS" tab. Remember to print copies of the handouts for the sessions for which you registered and bring them to the meeting with you. **No handouts will be provided onsite.** If you are having problems downloading the handout, please contact Brenda Kochis, [BrenKoch@comcast.net](mailto:BrenKoch@comcast.net).

Handouts for the sessions will be available on the ASCLS-WA website approximately 2 weeks prior to the meeting in a password protected area. You will receive the "password" and instructions on how to print the handouts approximately 2 weeks before the meeting. The email will be from [BrenKoch@comcast.net](mailto:BrenKoch@comcast.net), so watch for it. Register early so that you can print the handout material for your sessions. Handouts will NOT be provided for those that register onsite. If you plan to register onsite, please contact Brenda Kochis at [BrenKoch@comcast.net](mailto:BrenKoch@comcast.net) for information regarding handout access.