



North Carolina Society of Histotechnology 2026 Annual Meeting March 12 - 14, 2026



DoubleTree by Hilton, 4810 Page Creek Lane, Durham, NC 27707

ABSTRACTS

Amyloidosis and CAP guidelines

Friday, March 13 | 4:00 - 5:00pm

Dr. F. Zahra Aly, MD, PhD | Wake Forest University

This presentation focuses on the pathogenesis of amyloid and its protean manifestations. The diagnosis of amyloidosis and the current gold standard of Congo Red staining is considered. Characterization of the protein is necessary for treatment. The new College of Pathologists guidelines for amyloidosis are discussed.

Contact Hour(s): 1.0

An Overview of AI for Pathology

Friday, March 13 | 1:30 - 2:30pm

David Cunefare, PhD | Experimental Pathology Laboratories, Inc.

An overview of artificial intelligence and how it is currently used in pathology image analysis and quality control.

Contact Hour(s): 1.0

Basic Immunohistochemistry: A Practical Experience

Saturday, March 14 | 8:00 - 12:00pm

Kimya Jones, MS, HT(ASCP) QIHC(ASCP) | Augusta University - GRPS Histology Core

This workshop will focus on the basic principles of immunohistochemistry and the utilization of antibodies for the detection of specific antigens. We will discuss IHC techniques and protocol development using enzyme labels, including immunofluorescence. We will perform an immunohistochemistry stain using the indirect IHC technique that comprises of two phases (1) slide preparation (antigen retrieval, protein blocking, endogenous enzyme blocking, antibody cubation and antibody visualization. (2) Interpretation of the IHC stain. Following the performance of the stain we will review methods for troubleshooting to achieve optimal staining results. The goal is to give individuals a general working knowledge of how manual IHC stains are accomplished. "

Contact Hour(s): 3.0

Beyond the Slide: Unsectioned Science for Advancing Histotechnology in Regenerative Medicine

Friday, March 13 | 11:00 - 12:00pm

Kristina Stumpf | Wake Forest Institute for Regenerative Medicine

Whole-tissue clearing marks a significant advancement in histotechnology, transforming conventional slide-based methods into genuine 3D histology. This technique enables histotechnologists and imaging experts to analyze large organoids, engineered tissues, and entire specimens without the need for physical sectioning, thereby reducing sampling bias and preserving crucial structures. By eliminating lipids, pigments, and other light-scattering elements, and matching the refractive index (RI), tissues become optically homogeneous and suitable for deep 3D imaging using confocal, multiphoton, or light-sheet fluorescence microscopy.

A key part of this seminar is showing what whole-mount visualization can do that a single histochemical slide cannot: continuous vascular networks, intricate stromal-immune interactions, cellular pathways over long distances, and scaffold or biomaterial integration across the full specimen. Participants will see how multiplexed fluorescence and large-volume rendering uncover lineage markers, zones of proliferation, and cell migration patterns in ways that 2D workflows cannot access.

The technical advantages directly enhance experimental design by ensuring consistent antibody penetration, preserving long-range spatial relationships, minimizing sampling artifacts, and allowing repeated analysis of the same specimen without harm. These features make clearing particularly valuable for validating biomaterials, tracking stem cell migration, assessing vascularization, and determining how effectively engineered constructs connect with the host.

Participants will gain practical experience with advanced analysis tools like object detection, surface segmentation, filament tracing, and AI-driven pixel classification, transforming volumetric datasets into accessible resources for histotechnologists. The seminar aims to provide both theoretical insights and practical approaches for integrating 3D clearing and imaging into existing laboratory workflows.

Contact Hour(s): 1.0

Breaking the Acid Habit: Smarter Bone Decalcification with EDTA

Friday, March 13 | 8:00 - 9:30 am

Michelle Bell, HT(ASCP)QIHC | Milestone Medical

Bone decalcification is a critical pre-analytical step that directly impacts histologic quality, immunohistochemistry, and molecular testing performance. While acid-based decalcifiers offer rapid processing, they frequently compromise tissue morphology, antigenicity, and nucleic acid integrity. This workshop will review the fundamental mechanisms of bone decalcification, contrasting acid-mediated mineral dissolution with EDTA-based calcium chelation, and explain why EDTA provides superior preservation of morphology and biomolecules. Attendees will review comparative data demonstrating the advantages of EDTA over acids and will learn practical strategies to significantly reduce EDTA decalcification time using validated approaches such as gentle heat and continuous agitation. Emphasis will be placed on achieving faster turnaround without sacrificing morphologic detail, immunohistochemical performance, or molecular assay reliability. Practical implementation tips and real-world case examples will be included.

Contact Hour(s): 1.5

Contributions of Histology to Renal Pathology

Saturday, March 14 | 2:00 - 3:00pm

Dr. David N. Howell, MD, PhD | Duke University Medical Center

Processing, staining, and evaluating native and transplant renal biopsies is a complex endeavor that demands great technologist skill and careful coordination between multiple laboratories. After a biopsy is obtained, it must be divided (often in one of the laboratories, with the aid of a dissecting microscope) to provide adequate tissue for three forms of microscopy: light microscopy (performed on formalin-fixed, paraffin embedded tissue), immunofluorescence microscopy (performed on fresh-frozen tissue), and electron microscopy (performed on glutaraldehyde-fixed, epoxy-embedded tissue). These three forms of microscopy have different and complementary strengths. This presentation will describe the various stains and studies performed in each laboratory and provide examples of how all of the results are correlated to provide a final diagnosis.

Contact Hour(s): 1.0

Differentiating Mohs Process vs Routine Histology

Saturday, March 14 | 11:00am - 5:15pm

Wendy McGavock, MLT(ASCP) & Amanda Whaley, MLT(ASCP)

We provide complete technical assistance and full training to create proficiency in cutting Mohs frozen section slides. This workshop will help you understand the concept of Mohs vs routine Histology and will increase your efficiency in any cryostat sectioning.

Contact Hour(s): 4.0

Digital Pathology: The New Frontier

Friday, March 13 | 8:00am - 9:30am

Kathryn R. Perkinson, BS, HTL(ASCP) | Duke University Medical Center

Digital Pathology is changing the histology and the way we will practice medicine in the future. In this presentation, we will talk about where we are and where we are going in the digital frontier. Quality assurance processes in histology will be necessary to allow digital pathology to move forward. Technologists will benefit from being "in the know." We will have a demonstration of scanning in this presentation. Please join us as we look toward the new frontier.

Contact Hour(s): 1.5

From Produce Aisle Staples to Laboratory Heroes: Humble Crudites Vanquish Decalcification End-Point Testing Bogeyman in Epic Training Exercise

Friday, March 13 | 9:30 - 10:30am

Linda P. Culpepper, BA, MA, HT/HTL(ASCP)cm QIHC(ASCP)cm | US Army – Fort Liberty DENTAC

Decalcification end-point testing is the mythical bogeyman lurking silently in dark corners of pathology gross rooms and histology laboratories. When decal is complete and end-point testing has been performed correctly prior to tissue processing, those formerly rock-solid specimens roll effortlessly in ribbons off the microtome blade. The microtome feels triumphant like David, having slain Goliath or a Ghost Buster having vanquished a creepy specter while picking up the perfect section to stain and present to an awaiting pathologist. However, when end-point testing has not been performed correctly and that still hard but now processed, embedded specimen hits the blade with a sickening crunch and then “pop goes the weasel,” the tech grimaces and curses that on this day, Goliath and the Marshmallow Man took the field. End-point testing may seem intimidating, but it needn't be. As with most things in life and the histology laboratory, it's a matter of training and familiarity with the subject which in this case is bone tissue and how it “feels” at various stages of decalcification. While some histology trainers may have ample access to bone samples for use in training exercises, others may not. That is where a stroll down the produce aisle armed with creativity and a sense of humor saves the day. We won't match exactly the way bone looks and feels at various stages of decalcification, but we can come close enough using humble supermarket crudites in a safe, non-threatening manner to build confidence in those tasked with performing this process on actual patient samples.

Contact Hour(s): 1.0

Gastrointestinal and liver pathology - critical histology considerations and interesting case examples

Saturday, March 14, 2026 | 8:00 - 9:00am

Dr. Avani Pendse, MD, PhD | Duke University Health System

In this presentation, my aim is to highlight how the handling of tissue, blocks and slides in the histology lab determines the quality of the final diagnosis. The job of a pathologist is to give accurate and specific diagnosis in a timely manner. Processes followed in the histology lab can affect this significantly in a both positive and negative way and are very critical for the overall success of the Pathology department and for patient outcomes. We will discuss some of these issues along with review of gastrointestinal tract and liver histology. We will follow this by a series of interesting cases where both the pathology of the disease and the role of histology lab processing will be discussed.

Contact Hour(s): 1.0

Histology in Dermatopathology - Role of Ancillary Studies for Dermatopathology Diagnosis

Saturday, March 14 | 3:15 - 4:15pm

Dr. Jennifer Crimmins, MD | Duke University Medical Center

Collaboration with the histology laboratory is of key importance in accurate, quality dermatopathology practice. The indications for multiple deeper level sections and ancillary studies, including special stains and immunohistochemical studies, will be demonstrated via multiple case-based examples to emphasize the valued role of the histology laboratory in dermatopathology.

Contact Hour(s): 1.0

HT & HTL Review Course

Saturday, March 14 | 8:00am - 5:15pm

Diane Sterchi, MS, HT/HTL(ASCP) | Independent Histotechnology Consultant

Elizabeth Chlipala, BS, HTL(ASCP) QIHC | Premier Laboratory, LLC

As students are getting ready to take the ASCP certification exam an extensive review is helpful for them to prepare. This course will cover all of the areas of histotechnology that will be tested along with test practice questions at the end of each segment. This presentation will cover how to study and discuss high rated areas in the test.

Contact Hour(s): 6.0

Promoting Histology for the Next Generation

Friday, March 13 | 4:00 - 5:00pm

Cynthia Zimmerman | Wake Forest University Health Sciences

When asked “what type of work do you do”, how many people get that blank look when you tell them you are a histology tech? Or they say, “so you study history”? Most people have never heard of the field of histology. People do not know where their biopsy goes. They just know that the doctor calls them with results. As many histology techs start reaching retirement age, who is going to replace us? As a career that isn’t well known about, this could be a real problem. As a society, it is our job to educate people about what we do.

Whether it is a clinical lab or research, we have a very rewarding job that has a big impact on people’s lives. We need to find ways to let the next generation know that this exciting career exists. This is an open discussion to brainstorm ideas on how to educate the next generation about the field of histology. Come join us and bring your ideas.

Contact Hour(s): 1.0

Lean Histology Laboratory: The Huddle Board

Friday, March 13 | 2:30 - 3:30pm

Jennifer Bower, HTL(ASCP) QIHC, LSSBB | Caromont Regional Medical Center

Providing a daily huddle for the laboratory team is the best way to introduce, and maintain, lean. In this class we will go over the components of a basic 15 minute huddle. From fun ideas like “Word of the Day” for team engagement, to “Safety Concerns”, and “Ideas in Motion” to get the lab thinking creatively. We’ll talk about how to choose good metrics and how to avoid common pitfalls. By the end of class you will be prepared to create your own huddle board and take your lab to the next level!

Contact Hour(s): 1.0

Molecular for the Histology Laboratory

Friday, March 13 | 11:00am - 12:00pm (1.0hr)

Diane Sterchi, MS, HT/HTL(ASCP) | Independent Histotechnology Consultant

Molecular Histotechnology (MH) Abstract: Along with IHC, in Situ Hybridization (ISH), and many other techniques and capabilities have greatly increased over the last 10 to 20 years. This increase came with full or partial automation of most procedures. As histotechnologists start performing the techniques in MH, it is important to know what steps are involved with each procedure. Some of the procedures can be performed by-hand but mostly are done by instrumentation. Which is why it is important to understand what that instrumentation is doing step-by-step.

Understanding makes troubleshooting easier. This presentation is on the different methods for MH and preparing histotechnologists for what our positions are doing now and in the future. All medical diagnostics are relying on MH results, thus, to determine the treatment for the patient. We will cover some terminology and go over tests that are performed in the histology laboratory now and what they may perform in the future.

Goals:

1. Understanding the basic steps of Molecular histotechnology
2. Understanding some of the basic terminology
3. Open discussion and sharing techniques others have in their laboratories.

The Names of the Stains Revisited

Friday, March 13 | 2:30 - 3:30pm

Jean Mitchell, BS, HT(ASCP) | Newcomer Supply

This talk will focus on "the names of the stains" and the histology history of stains. Gram, Gomori, Masson and Movat are among the common names and stains spoken on a regular basis in the histology laboratory. Behind these and other stains is an extraordinary history of how stains and procedures originated and became an integral part of our everyday working laboratory environment. Let's explore a name, add a face and details to "the names of the stains" and bring a new appreciation to the laboratory work that we do. (This talk is an updated version of The Names of the Stains; Histology History 101)

Contact Hour(s): 1.0

The Leadership Mindset: From "Doer" to Leader

Friday, March 13, 2026 | 9:30 - 11:00am

Michelle Bell, HT(ASCP)QIHC | Milestone Medical

Becoming a leader is a long winding path that varies greatly for each of us. In this workshop, we will discuss strategies to move beyond being the "doer", which is what typically propels us into the position of leadership, to being a true leader. We will discuss self-limiting beliefs and their source, situational influencers, and our ego-centric selves that can limit our progress toward effective leadership. We will also outline the different personalities related to the leadership matrix, and how to interact with each other effectively.

Contact Hour(s): 1.5

The Role of Biomarker Testing in Clinical Decision-Making

Friday, March 13 | 9:30 - 10:30am

Bertha Peralta, MBA | Amplify/Merck

Understand role of Biomarker testing in Precision Medicine Oncology; Types of Biomarker tests in Oncology and how they may play different roles in informing clinical decisions; and the Importance of collaboration of the Multidisciplinary Oncology team in Biomarker testing and Treatment Process

Contact Hour(s): 1.0

Transforming Pathology Workflows: The Power of Automated Sample Management & Archiving Solutions

Friday, March 13 | 1:30 - 2:30pm

Autumn Papania | Dreampath Diagnostics

Background: Histology is undergoing a significant transformation, shifting from manual, error-prone processes to digital, automated workflows. This evolution is driven by the growing need for efficiency, traceability, and improved diagnostic accuracy.

Methods: This seminar provides a structured overview of how pathology labs can successfully transition to digital workflows. Key focus areas include automation of the histology process and implementation of traceability systems.

Conclusions: The digital transformation of histology is not just a technological upgrade—it's a strategic imperative. Embracing automation and traceability is essential for enhancing patient safety, ensuring quality assurance, and positioning labs for future.

Contact Hour(s): 1.0

Slides, Stains, and Signals: Histologic Insights into Muscular Dystrophy

Friday, March 13 | 11:00 - 12:00pm

Steven Westra | Bio-Techne - ACD

Muscular dystrophies present a wide spectrum of inherited myopathies, but for histologists the diagnosis begins at the slide: fiber size variation, necrosis with macrophage invasion, central nuclei, and progressive replacement by fat and connective tissue. Immunohistochemistry and immunofluorescence remain core tools for defining protein-level defects in dystrophin, sarcoglycans, dysferlin, merosin, emerin, caveolin-3, and other key structural markers that distinguish major dystrophy subtypes. As molecular diagnostics advance, RNA-based assays such as RNAscope are emerging as powerful complements—enabling spatial detection of gene transcripts, clarifying ambiguous protein results, and revealing expression patterns in regenerating versus degenerating fibers. This presentation highlights the morphologic hallmarks, protein-expression signatures, and expanding RNA-level tools that equip histologists to deliver precise, clinically actionable muscular dystrophy diagnoses.

Learning Objectives

- Recognize the key morphologic hallmarks of major muscular dystrophies, including fiber size variation, necrosis with macrophage invasion, central nuclei, and fatty/connective tissue replacement.
- Differentiate dystrophy subtypes using protein-level markers, with emphasis on immunohistochemistry and immunofluorescence patterns for dystrophin, sarcoglycans, dysferlin, merosin, emerin, and caveolin-3.
- Understand how RNAscope enhances diagnostic accuracy by enabling spatial RNA transcript detection that complements protein staining, especially in cases with ambiguous or partial immunolabeling.

Contact Hour(s): 1.0

Stains That Speak: Solving Clinical Cases with Immunohistochemistry

Saturday, March 13 | 9:00 - 10:00am

Dr. Jeffrey L. Arnold, MD | Duke Pathology, Duke University Hospital

Immunohistochemistry (IHC) has become an essential diagnostic tool in surgical pathology and cytology, enabling precise tissue characterization and improved diagnostic accuracy. This presentation will review practical applications of IHC panels in resolving challenging clinical cases, including tumor classification, metastatic site identification, and prognosis. Emphasis will be placed on selecting efficient, cost-effective stains and avoiding common pitfalls. Through collaborative case-based discussion, we will highlight the critical role histotechnologists play in producing high-quality IHC results that directly impact patient care.

Contact Hour(s): 1.0

Submucosal Collagen Thinning in Interstitial Cystitis/ Bladder Pain Syndrome: Sharing Tools for FFPE Tissue Collagen

Architecture Analysis

Friday, March 13 | 8:30 - 9:30am

Hannah Ruetten | WFIRM

Interstitial cystitis/bladder pain syndrome (IC/BPS) is a condition defined by greater than six weeks of pain arising from the bladder/pelvis that is associated with lower urinary tract symptoms. IC/BPS impacts millions of patients in the United States each year. Despite the large number of patients suffering from IC/BPS and extensive studies that have been conducted to determine potential etiology and disease biomarkers, questions remain regarding the etiology and pathophysiology of IC/BPS, as well as the diagnostic utility of mucosal biopsies. In a recent study we assessed bladder lamina propria collagen characteristics in mucosal biopsies in phenotypically characterized IC/BPS patient subgroups that may influence pathophysiology. Here we share tools for collagen analysis in FFPE tissue from our study including: 1) performing picrosirius red staining, 2) CT-FIRE collagen analysis, 3) collagen data interpretation, and 4) protocols for follow-up analysis including destaining PSR and restaining with fluorescent IHC.

Contact Hour(s): 1.0

QIHC Prep Course

Friday, March 13 | 1:30 - 5:00pm

Elizabeth Chlipala, BS, HTL(ASCP) QIHC | Premier Laboratory, LLC

The ASCP (American Society for Clinical Pathology) Qualification in Immunohistochemistry (QIHC) is a specialized certification for laboratory professionals who perform immunohistochemical (IHC) testing. It demonstrates expertise in the principles, techniques, and quality control of IHC staining in a clinical or research setting. This workshop will cover some of the concepts and information needed to begin to prepare for the exam, or any individual who would want to gain additional information on the principles of immunohistochemical staining. This workshop will contain brief discussions and overview of the following topics; the basic principles of IHC, fixation and tissue processing, antibody selection and validation, detection systems, control selection and some regulatory guidelines. Reading materials and study guides will be provided.

Contact Hour(s): 3.0

What Makes a Great H&E?

Saturday, March 14 | 4:15 - 5:15pm

Tonia Crook BS, BM, HT(ASCP) | Sakura

The H&E is the baseline for the Histopathology laboratory. The Pathologists depend on the consistency and quality of the stain to make their diagnosis. There are many steps prior to the actual staining that can and do affect the process. As histology technicians and technologists, how can help create a consistent and quality stain? In this workshop we will discuss the steps leading up to the stain and their possible affects and how to choose reagents that will limit the amount of troubleshooting required of the stain itself.

Contact Hour(s): 1.0