



CAP17 Course Information

Table of Contents

Sunday	3
Monday	15
Tuesday	26
Wednesday	37
CAP17 Faculty List	42

8:00-9:15 AM



P1700 The Revolution in Gene Editing Using CRISPR/Cas9: Medical Miracle or Brave New World?

1.0 CME/CE CREDIT

Gene therapy for hereditary disorders and cancer has long been the “holy grail” of molecular medicine. Despite decades of effort, it has remained elusive for all but a few special applications (for example, certain leukemias and degenerative retinal disorders). Major obstacles to current gene therapy include toxicity of the viral vectors; difficulty targeting the replacement in the tissue of interest; random integration of the replacement gene into the genome, producing off-target effects; imprecise dosing; and frequent loss or dilution of the replacement gene as cells in the target tissue replicate. In recent years, a radically different approach has evolved, one that involves not gene replacement but *in situ* gene editing. Several methods were developed for accomplishing this, but until recently they were expensive, cumbersome, inefficient, and inaccurate. That has all changed with the development of an ingenious system based on an existing property of adaptive immunity in certain species of bacteria, dubbed CRISPR/Cas9.

CRISPR stands for *Clustered Regularly Interspaced Short Palindromic Repeats*, and Cas9 is one of several genes associated with the system. Together they provide precise targeting and destruction of invading nucleic acids that have entered the bacterial cell. Remarkably, the same system can be introduced into living eukaryotic cells to target any gene of interest, using synthesized complementary “guide RNAs.” The method is easy to use and far more efficient and accurate than any of the previous approaches. It also is remarkably versatile in that it can be used for gene deletion, gene replacement, gene regulation, or gene editing (adding or removing mutations); and it works in all species, including humans, and all tissues.

CRISPR/Cas9 already has proven to be an invaluable research tool for studying gene function and regulation and for creating mutant and knockout models of genetic disorders *in vitro* and *in vivo*. Now we seem to be on the cusp of applying it to human embryos, germ cells, tumors, and patients. The technology’s ease of use has evoked concern in some quarters over its potential to alter the human genome permanently, ushering in a new era of eugenics and “designer humans.” Many urge caution or even an outright moratorium on its use in living patients and especially embryos, where the edited gene would enter the germline and be preserved in subsequent generations.

Join us to hear nationally recognized experts in a panel discussion on the fundamentals of the CRISPR/Cas9 technology, its powers and pitfalls, and its ongoing use in genetic and oncology research. Panelists will explore the potential medical applications in genetic disease and cancer and share the initial experiments conducted and the practical outcomes to emerge thus far. They also will address the challenging ethical issues raised by this technology as well as discuss the future role of pathologists in testing, monitoring, and gatekeeping the performance of gene editing in patients and biopsy tissues. Don’t miss this thought-provoking session!

You will learn to:

- Describe the CRISPR/Cas9 approach to gene editing and why it represents such a radical advance beyond all previous approaches to gene therapy
- Review present and near-future clinical applications of the technology in genetic, neoplastic, and immunologic diseases
- Discuss the myriad ethical challenges that will inevitably accompany the range of potential uses of the technology to patients and human embryos

Faculty

Wayne W. Grody, MD, PhD, FCAP (Moderator)

David Scott, PhD

Omer Yilmaz, MD, PhD

Information is subject to change

9:30-10:30 AM



M1626 CNS Tumors and Molecular Advances

1.25 CME/SAM CREDITS

Learn how the central nervous system (CNS) tumor diagnosis is rapidly changing with the elimination of some tumor types and the redefinition of others. With the use of frozen section, permanent section, and molecular markers through routine immunohistochemical, FISH, and molecular analysis, the session will focus on the more common CNS tumors and their molecular phenotypes with implications for patient treatment and prognosis.

You will learn to:

- Identify frozen section tips for CNS diagnosis
- Describe both new and current diagnostic tools for use in CNS tumors to obtain an improved diagnosis
- Recognize CNS tumor molecular phenotypes

Faculty

Mary E. Fowkes, MD, PhD, FCAP

9:30-11:30 AM



S1307 Practical Integration of Clinical, Electrophoretic, and Molecular Features of Hemoglobin Disorders

2.5 CME/SAM/CE CREDITS

Hemoglobin disorders are common and can be associated with a wide variety of clinical phenotypes and severity. These disorders are an excellent model to understand the molecular mechanisms of diseases. Because of the simple nature of the human red blood cell, it is very easy to see how an alteration in the globin DNA can affect the resultant protein and the protein's effect on the function of the red blood cell. There are many different methodologies to evaluate these disorders. Faculty will use a case-based discussion of clinically significant hemoglobin and thalassemia disorders, integrating clinical and laboratory data into the presentation. A major emphasis will focus on the practical and appropriate use of ancillary studies, particularly molecular studies. Following this session, participants may complete a related online self-assessment module.

You will learn to:

- Identify the pathogenesis of hemoglobin disorders
- Use hemoglobin disorders as a model to review molecular mechanisms of disease
- Compare the advantages and limitations of commonly used methods
- Recognize situations when ancillary testing is appropriate and beneficial

Faculty

James D. Hoyer, MD

Jennifer L. Oliveira, MD, FCAP

9:30-11:30 AM



S1621 Autoantibodies: A Case-Based Approach

2.5 CME/SAM/CE CREDITS

Autoantibody testing is important for the diagnosis and management of autoimmune disease. The faculty will use an interactive, case-based approach to examine the use of autoantibody testing in a variety of organ-based and systemic autoimmune disorders. The key areas which will be covered include endocrine, rheumatologic, gastrointestinal, and neurological disorders. Each case will include a discussion of the initial diagnostic testing and the appropriate use of the laboratory in the monitoring of treatment. This session is sponsored by the CAP's Diagnostic Immunology Resource Committee.

You will learn to:

- Recommend the most cost-effective autoantibody test for the diagnosis of a variety of autoimmune disorders
- Identify the differences between immunology methods used to assay autoantibodies
- Describe the potential usefulness of new and emerging autoantibody markers

Faculty

James D. Faix, MD, FCAP

Cosponsored by the American Association for Clinical Chemistry (AACC)



S1706 The Laboratory's Role in Monitoring Chronic Opioid Therapy

2.5 CME/SAM CREDITS

The US is confronting an epidemic of prescription drug abuse. Collaboration between physicians treating chronic pain and the laboratory has been identified as a key point of intervention to reduce the risks of abuse, misuse, and diversion of these drugs. This course will: 1) provide background information on chronic opioid therapy and its challenges; 2) aid pathologists in understanding laboratory testing, including the limitations of the analytical methodologies; 3) assist pathologists in building a knowledge base to interpret test results; and 4) provide a framework for clinical consultations on drug compliance. Faculty will encourage attendees to participate in interactive case studies that illustrate the key educational objectives of the curriculum.

You will learn to:

- Identify the clinical issues related to opioid prescribing for chronic pain indications
- Define the clinical needs and expectations of urine drug testing in pain management
- Address preanalytic and analytic issues of drug testing for pain management
- Interpret drug testing results

Faculty

Tai C. Kwong, PhD

Barbara Jean Magnani, PhD, MD, FCAP

9:30-11:30 AM



S1723 Update on Colon Polyps: A Practical Approach
2.0 CME CREDITS

Sponsored by the Rodger C. Haggitt GI Pathology Society, this course will discuss the keys to effective surgical pathology of colonic polyps. Faculty will combine lecture and case presentations that illustrate and reinforce key points to demonstrate how they are used to effectively recognize, diagnosis, and report these important lesions. Additionally, the utility and limitations of new clinical and pathologic technologies and their impact on diagnosis and management will be discussed. Changes in consensus guidelines also will be presented. Ample time for questions and discussion will be available. This course is intended for practicing surgical pathologists as well as residents and fellows.

You will learn to:

- Identify pathologic features in malignant colonic polyps that guide clinical decision making
- Recognize the pathologic, clinical, and endoscopic factors that guide therapy in inflammatory bowel disease-associated colonic dysplasia
- Define the criteria used to diagnose serrated colonic polyps
- Classify unusual colonic polyps and identify associations with polyposis syndromes

Faculty

Rish K. Pai, MD, PhD
David Schaeffer, MD, PhD

Cosponsored by the Rodger C. Haggitt Gastrointestinal Pathology Society (GIPS)



S1750 Multidisciplinary Approach to the Diagnosis and Management of Breast Lesions in the Era of Personalized Medicine
2.0 CME CREDITS

The diagnosis and management of breast cancer have undergone a paradigm shift from a one-size-fits-all approach into an era of personalized medicine. The use of sophisticated diagnostic tests has improved tumor classification and characterization. These tests, combined with newer therapy approaches, such as new surgical techniques, radiation therapies, and targeted systemic therapies, provide multiple therapy options for an individual patient. Delivering optimal therapy requires a collaborative multidisciplinary approach and breast pathologists are essential members of the team. Faculty will present case discussions to demonstrate how a multidisciplinary team functions to evaluate, diagnose, and determine patient treatment plans.

You will learn to:

- Evaluate the diagnostic criteria and clinical significance of various breast lesions
- Summarize the uses and limitations of new techniques used in clinical practice
- Describe the emerging role of molecular techniques in the evaluation of breast diseases
- Discuss the interpretation of molecular testing as applied to patient care

Faculty

Thomas A. Buchholz, MD
Kelly K. Hunt, MD
Aysegul A. Sahin, MD
Vicente Valero, MD
Amy Zhang, MD

9:30-11:30 AM

V1683 Pitfalls, Pointers, and Pearls in Liver Pathology: A Practical Approach

2.0 CME CREDITS

Using a case-based approach to the evaluation of the neoplastic and nonneoplastic liver, faculty will review commonly encountered, sometimes challenging aspects for the morphologic evaluation of the liver, providing the basis for further ancillary and clinical testing. Cases will encompass intraoperative evaluation of liver lesions, with emphasis on diagnostic clues and limitations, the well-differentiated hepatocellular neoplasm, and the ongoing evolution of classification of lesions. Additionally, faculty will discuss the application of ancillary techniques to evaluate the malignant liver lesion and the detection of histologic patterns of liver injury to guide clinical management.

You will learn to:

- Utilize morphology to select an appropriate immunohistochemistry panel in the evaluation of liver neoplasms
- Distinguish between benign and malignant liver lesions during frozen section, while recognizing the limitations of the technique
- Recognize common histologic patterns of medical liver disease
- Recommend appropriate ancillary and clinical workup for medical liver disease

Faculty

Kisha A. Mitchell-Richards, MD, FCAP

Robert M. Najarian, MD, FCAP

10:30-11:30 AM

M1596 How Is My Payment Determined for Pathology Services?

1.0 CME CREDIT

In this highly interactive course, learn about the important concepts of payment of services on the Medicare Physician Fee Schedule (PFS) and current procedural terminology (CPT) coding. Faculty will provide an overview of how current coding and billing practices were developed and how the Centers for Medicare & Medicaid Services (CMS) determines the payment amount for codes on the PFS. Faculty also will discuss how CPT codes are modified and how code modification can lead to payment changes on the PFS. As a result of participating in this course, participants will understand the fundamentals of the current systems to better comprehend the changing payment environment and to predict future trends.

This course and the complementary CAP17 courses R1690 and R1691 provide a review of concepts in CPT coding, Medicare PFS valuation, and payment policy challenges that pathologists currently face.

You will learn to:

- Explain CPT, AMA/Specialty Society Relative Value Scale Update Committee (RUC), resource-based relative value scale (RBRVS), PFS, and Relative Value Units (RVUs)
- Describe how a new code is initiated, developed, valued, and put into practice
- Explain how existing codes are modified
- Distinguish between Medicare PFS valuation and Medicare clinical laboratory fee schedule (CLFS) valuation
- Identify the differences and similarities in coding between Medicare and private payers

Faculty

Jonathan L. Myles, MD, FCAP

Mark S. Synovec, MD, FCAP

NOON–1:00 PM

Round Table Discussions—Lunch Included

1.0 CME/CE CREDIT

Join the experts for lunch! Exchange information and share solutions in a relaxed setting with your peers. You will learn to improve your ability to identify solutions to common problems through interactive sessions with colleagues. An additional fee applies.

R1601 Essential Immunohistochemical and Molecular Markers for General CNS Glial Tumors

Faculty

Mary E. Fowkes, MD, PhD, FCAP

R1612 Leading Your Laboratory: How to Take Charge and Exercise Your Authority as a CLIA Laboratory Director

Faculty

David S. Wilkinson, MD, PhD, FCAP

R1690 My Surgical Pathology and Cytopathology Coding Dilemmas: Getting It Right—An Advanced Discussion

Faculty

Mark S. Synovec, MD, FCAP

 R1715 Lessons From a Social Media Pro: Harnessing the Full Power of Twitter and Facebook for Career Development

Faculty

Jerad M. Gardner, MD, FCAP

 R1738 Digital Pathology Applications for the Community Practice

Faculty

Brent T. Tan, MD, PhD, FCAP

2:00-3:00 PM



M1741 Validating a Whole Slide Imaging System—A Case-Based Approach to the CAP Guidelines

1.0 CME/CE CREDIT

Digital pathology systems must be validated prior to being used in a clinical setting. Although the CAP has provided guidelines on validating whole slide imaging, many pathologists have minimal experience with operating a digital pathology system. This course is intended to teach participants how to validate a whole slide imaging system. First, faculty will review the CAP published guidelines with particular focus on intended clinical use, sample number, and concordance rate, and will cover use cases including intraoperative diagnosis and consultation. Faculty will present the course interactively, with participants engaged in a hypothetical validation study. Finally, faculty will discuss conditions in which revalidation of a system must be considered.

You will learn to:

- Design a validation study for a whole slide imaging system that meets CAP guidelines
- Determine the human resources required for a validation study
- Calculate the concordance rate between standard microscopy of glass slides versus whole slide scanned images
- Determine when a whole slide imaging system needs to be revalidated

Faculty

Brent T. Tan, MD, PhD, FCAP

2:00-4:00 PM



S1652 Hard and Soft Boiled: How to Succeed as Laboratory Director and Not Get Cooked

2.5 CME/SAM/CE CREDITS

This course will address two major areas that all laboratory directors should master. The first area involves the implementation of new programs or procedures including acquisition of major equipment, staffing, and other resources. Faculty will use the specific example of the implementation of next-generation sequencing; but the problems and solutions they discuss will be broadly applicable to other technologies and testing platforms. The second critical area faculty will address will be the handling of difficult clinicians with an emphasis on strategies designed to respond to complaints, unreasonable requests, and abusive behavior toward laboratory staff.

You will learn to:

- Prepare a proposal and a business plan for new technology
- Build clinician and institutional support for new technology
- Use simple strategies to deal with demanding or abusive clinicians
- Encourage laboratory staff to better understand and relate to demanding clinicians

Faculty

Paul Bachner, MD, FCAP

David S. Wilkinson, MD, PhD, FCAP

2:00-4:00 PM



S1718 Contemporary Methods in Monoclonal Gammopathy Detection and IMWG Guidelines

2.0 CME CREDITS

This interactive workshop alerts attendees to changes in the most recent International Myeloma Working Group (IMWG) guidelines for detection of multiple myeloma. These changes allow treatment of some asymptomatic individuals formerly classified as smoldering multiple myeloma thereby improving patient outcomes. The faculty will explore the laboratory's role in combining data from several techniques to improve detection, characterization, and monitoring of patients with monoclonal proteins. Faculty will show new methods for measuring M-proteins by gel and capillary electrophoresis, improvements in detection and characterization by immunofixation and immunosubtraction, nephelometric assays for serum free light chains, and the newer heavy-light combination assays. Illustrated by challenging cases, their use will demonstrate avoidable problems of false positive and false negative tests.

You will learn to:

- Incorporate new IMWG guidelines into your laboratory practice
- Implement a triage for detection of M-proteins appropriate for their clinical situation
- Identify when to use serum free light chain and combined heavy-light chain analyses in appropriate situations
- Measure and characterize M-proteins by both gel and capillary electrophoresis

Faculty

David F. Keren, MD, FCAP

2:00-5:30 PM

H1559 Flow Cytometry of Blood and Bone Marrow: Key Diagnoses That You Never Want to Miss

3.0 CME/CE CREDITS

Diagnostic flow cytometry is a powerful ancillary tool that can augment the morphologic examination of blood and bone marrow; however, common pitfalls include erroneously excluding neoplastic populations with suboptimal gating techniques and overinterpreting normal reactive populations that mimic neoplasia. In this course, faculty will present key flow cytometry cases comprising blood and bone marrow specimens. Example cases include monoclonal B lymphocytosis, systemic mastocytosis, plasma cell myeloma, reactive B lineage precursors, and increased reactive myeloblasts. The final portion of the session will focus on a structured approach to T-cell leukemia/lymphoma. Faculty will discuss gating strategies and pearls to avoid common pitfalls for each case.

You will learn to:

- Identify flow cytometry gating strategies to avoid the exclusion of neoplastic populations
- Recognize nonneoplastic populations by flow cytometry that mimic neoplasia
- Discover where unexpected atypical populations are most likely to be identified in standard flow cytometry screening tubes

Faculty

David M. Dorfman, MD, PhD, FCAP

William J. Karlson, MD, PhD, FCAP

Michael A. Linden, MD, PhD, FCAP

2:00-5:30 PM



H1667 Hot Topics in Surgical Pathology and Cytopathology of the Pancreas and Biliary Tract
3.75 CME/SAM CREDITS

This session will provide an overview of the challenges and practical clues to the histologic and cytologic diagnosis of solid and cystic tumors of the pancreatobiliary tract and neoplasia of the gallbladder, biliary tract, and ampulla. Faculty will give a detailed description of the orientation and dissection of pancreaticoduodenectomy (Whipple) specimens and will discuss ampullary tumors, including new terminology used for reporting these neoplasms. Faculty will also provide information on the diagnosis of gallbladder dysplasia as well as the appropriate dissection and sampling of these specimens. Other topics will include the histology and cytology of selective problematic solid pancreatic lesions and neoplasms with an emphasis on an algorithmic approach to diagnosis and differentiate from key morphologic mimickers, including use of ancillary studies. Faculty will also discuss the preoperative cytologic evaluation of pancreatic cysts. Participants will learn about the surgical pathology of cystic pancreatic neoplasms as well the classification, clinical significance, and reporting terminology for intraductal pancreatic and biliary tract neoplasms. A discussion of the key morphologic and molecular differences between extrahepatic and intrahepatic cholangiocarcinoma will conclude the session.

You will learn to:

- Dissect pancreaticoduodenectomy specimens to ensure accurate tumor identification, sampling, and lymph node retrieval
- Identify and appropriately utilize the site-specific classification of ampullary carcinomas, based on key gross, histologic, and microscopic findings
- Appropriately gross gallbladders and recognize the key morphologic features of gallbladder dysplasia and carcinoma that would distinguish it from mimickers
- Utilize gross, histologic and cytologic features to distinguish pancreatic ductal adenocarcinoma from other solid mimickers (including chronic pancreatitis and other solid tumors)
- Utilize ancillary studies in their distinction
- Classify and grade pancreatic neuroendocrine neoplasms
- Recognize newly described neuroendocrine neoplasms and their prognostic significance
- Classify and report the cytologic and histologic features of cystic and intraductal pancreatic neoplasms, intra- and extrahepatic cholangiocarcinoma, as well as gallbladder neoplasms

Faculty

Volkan Adsay, MD, FCAP

Alyssa M. Krasinskas, MD, FCAP

Michelle D. Reid, MD, MS, FCAP

Cosponsored by the Pancreatobiliary Pathology Society (PBPS)

3:30-5:30 PM



S1614 Can You Hear Me Now? Giving and Receiving Feedback Effectively

2.5 CME/SAM CREDITS

Effective feedback is crucial to engaging team members. Feedback is personalized information based on direct observation that is crafted and delivered so receivers can use the information to achieve their best potential. In the laboratory setting, feedback (or the lack thereof) extends beyond self-improvement and ultimately impacts patient care. The ability to give and receive feedback is an integral component of the communication subcompetency and informs every human interaction we have in our professional and personal lives. This is true of everyone, including laboratory professionals, administrative assistants, residents, fellows, and pathologists; and is true for pathologists in all practice settings and experience levels.

The practice of giving good feedback is a learned communication skill. This interactive workshop will use case-based learning, audience response, and demonstrations of different feedback techniques to teach take-home tips on giving and receiving feedback, to demonstrate four high-yield feedback techniques, and to understand a range of ways feedback is commonly received. The session will give participants take-away job aids so they can immediately apply the techniques learned in this session in their practice setting.

You will learn to:

- Describe how to provide effective feedback
- Explain how to effectively receive feedback
- Demonstrate feedback delivery methods

Faculty

Sarah M. Bean, MD, FCAP

Xiaoyin (Sara) Jiang, MD, FCAP



S1719 The WHO and Beyond: Myeloproliferative Neoplasms

2.0 CME CREDITS

The World Health Organization (WHO) recently presented the 2016 revision to the WHO classification of myeloid neoplasms and acute leukemia, including modified criteria for myeloproliferative neoplasms (MPNs). The impetus for these revisions in MPNs was largely based upon the identification of new molecular markers, and in each of the cases, the new criteria contain genetic mutations or genetic evolution as a major criterion. Faculty will define and apply these new criteria through a series of cases, demonstrating best practices with both algorithm and panel-based testing as guided by the clinical and morphologic presentations. In addition, faculty will discuss the potential prognostic significance of additional mutations, extending the course beyond the WHO.

You will learn to:

- Define the changes in the diagnostic criteria of MPNs in the new WHO
- Apply the WHO criteria to several real life cases
- Specify best practices when using algorithm versus panel testing
- Integrate new knowledge of additional mutations into daily practice

Faculty

Todd W. Kelley, MD, MS, FCAP

Annette S. Kim, MD, PhD, FCAP

Cosponsored by the Association for Molecular Pathology (AMP)

4:30-5:30 PM



M1584 The Expected and Unexpected in Thyroid FNA—Lessons Learned From Cytologic-Histologic Correlations
1.25 CME/SAM CREDITS

Faculty will use a case-based format to present four difficult thyroid fine-needle aspiration (FNA) cases selected from their practices, based on “painful” personal experience, unexpected surprises, and valuable learning aspects. This course will provide a review and an update of the current knowledge and diagnostic terminology on thyroid FNA and the information on the utilization of ancillary tests. Presenters will review cytomorphologic features, differential diagnoses, and histologic follow up of the discussed entity with illustrative examples; and presenters will share their positive and negative experiences and thought processes. Additionally, faculty will discuss the impact of the diagnosis on clinical management and outcome. This course will provide participants an increased confidence in handling common and uncommon thyroid FNA cases to improve diagnostic accuracy in their own practice.

You will learn to:

- Recognize characteristic cytomorphologic features of thyroid FNAs
- Discuss potential diagnostic pitfalls of thyroid FNAs through cytologic-histologic correlations
- Develop a practical approach on challenging thyroid FNA cases that have misleading clinical/radiologic information, mixed messages under the microscope, or unusual cytomorphologic features
- Use ancillary studies in thyroid FNA

Faculty

Ivan Damjanov, MD, PhD, FCAP

Fang Fan, MD, PhD, FCAP

8:00-9:00 AM



M1554 Primary Human Papillomavirus Testing: A New Era in Cervical Cancer Screening?

1.25 CME/SAM/CE CREDITS

Attend this presentation to learn more about the first human papillomavirus (HPV) test for cervical cancer screening. The Food and Drug Administration (FDA) approved this HPV test in April 2014. There are now three potential screening methods, which are creating confusion among patients, pathologists, and health care providers about how to incorporate alternative screening strategies into practice settings. Laboratory professionals can expect questions from health care providers regarding HPV primary screening. The faculty will provide the latest information on primary HPV testing for cervical cancer, HPV testing methods and quality concerns, and the appropriate ways to follow and manage patients who have received primary HPV screening.

You will learn to:

- Explain the rationale for the FDA approval of primary HPV testing
- List the advantages, disadvantages, and potential pitfalls in HPV primary screening using current HPV testing platforms
- Describe appropriate patient screening intervals and follow up
- Communicate the proper implementation of HPV primary screening to health care providers

Faculty

Diane D. Davey, MD, FCAP

Mohiedean Ghofrani, MD, MBA, FCAP

Cosponsored by the American Society of Cytopathology (ASC)

8:00-10:00 AM



S1704 Prostate Cancer and Its Mimickers

2.0 CME CREDITS

Prostate biopsies are among the most common specimens in contemporary pathology service. The most important part of reporting on these specimens is to accurately identify cancer and avoid overdiagnosing of its mimickers. This course has a practical approach for the practicing pathologist and will emphasize the following skills:

- Read prostate biopsies
- Use stringent criteria for diagnosing cancer
- Recognize deceptively bland prostate cancers
- Use immunohistochemistry as a tool for diagnosing cancer and interpret staining results
- Recognize benign mimickers with an emphasis on their appearance on needle biopsy
- Use the ISUP 2014 prostate cancer grading

You will learn to:

- Read and report on prostate biopsy strategies
- Identify precise diagnostic criteria of prostate cancer, including deceptively bland variants
- Recognize benign mimickers of prostate cancer
- Determine when to use immunohistochemistry and how to use it for diagnosing cancer

Faculty

Lars Egevad, MD, PhD

Cosponsored by the International Society of Urological Pathology (ISUP)

9:30-11:30 AM



S1576 The Ubiquitous Liver Mass: Conquering Natives, Common Visitors, and Surprises

2.5 CME/SAM CREDITS

Targeted toward practicing pathologists and pathologists in training, the course will integrate various aspects of morphology, ancillary studies, and immunohistochemistry in challenging areas of neoplastic and medical liver pathology. Faculty will use case-based presentations that will encompass details of the limitations of identifying small liver lesions in an intraoperative setting, the differential diagnosis of common histologic patterns of liver injury, and the effective use of morphologic and immunohistochemical methods to differentiate between primary and metastatic neoplasms in the liver.

You will learn to:

- Distinguish various primary benign and malignant hepatocellular neoplasms using morphologic clues and ancillary techniques that assist in their diagnosis
- Utilize morphologic cues and immunohistochemical studies to differentiate common metastases to the liver from primary liver tumors
- Recognize the limitations of frozen section for the diagnosis of liver lesions and develop an algorithmic approach to them
- Identify uncommon neoplasms and conditions that arise in the liver that mimic primary liver tumors

Faculty

Kisha A. Mitchell-Richards, MD, FCAP

Robert M. Najarian, MD, FCAP



S1636 Problematic Areas in Gastrointestinal Pathology

2.5 CME/SAM CREDITS

This course will highlight problematic topics in gastrointestinal (GI) pathology through the use of cases focusing on difficult areas in GI tract neoplasia. The faculty will discuss definitive diagnostic criteria and clinically relevant classifications; terminology will help guide practicing pathologists in their interpretation and formulation of clinically informative diagnostic reporting. Topics will include assessment of dysplasia in Barrett esophagus and updates to diagnostic pathology reporting of colorectal carcinoma (CRC) with particular emphasis on staging dilemmas in CRC. Additionally, the faculty will discuss the role of ancillary molecular and immunohistochemical testing in CRC in the selection of patients for targeted therapies and clinically relevant classifications of appendiceal neoplasia.

You will learn to:

- Discuss the standard diagnostic categories of dysplasia in the setting of Barrett esophagus, their histologic criteria, and clinical implications of dysplasia diagnoses in Barrett esophagus
- Assess colorectal carcinoma (CRC)
- Formulate clinically relevant diagnostic pathology reports, including strategies for common diagnostic dilemmas in staging CRC
- Utilize and communicate the results of ancillary molecular and immunohistochemical studies in CRC
- Apply diagnostic criteria from clinically relevant classifications to neoplasms of the appendix

Faculty

Reetesh K. Pai, MD, FCAP

Rish K. Pai, MD, PhD

9:30-11:30 AM



S1646 Gestational Trophoblastic Diseases: A Practical Update in Classification, Immunohistochemistry, and Molecular Diagnostic Testing
2.5 CME/SAM CREDITS

Gestational trophoblastic disease (GTD) remains a challenging area in gynecologic diagnostic pathology. Faculty will review the evaluation of morphologically abnormal products of conception (POC), which is a major source of difficulty when it comes to diagnostic reproducibility and accuracy using routine stained slides. It may result in either overdiagnosis or underdiagnosis of a hydatidiform mole, with the consequence of over- or undertreatment and potential delay in fertility planning. Recent advances in immunohistochemistry and molecular diagnostic tools, in particular molecular genotyping, have allowed for more definitive pathologic diagnoses. Similarly problematic is the recognition and classification of trophoblastic tumors since these may mimic benign trophoblastic alterations or nontrophoblastic tumors that carry entirely different management, therapeutic, and prognostic implications. Faculty will review a spectrum of newly available immunohistochemical tools that can be applied to navigate through this differential diagnosis and they will present a practical, algorithm-based strategy to evaluating abnormal POC specimens, trophoblastic proliferations, and trophoblastic tumors. Additionally, faculty will discuss the appropriate selection and interpretation of ancillary immunohistochemical and molecular tests, including the most recently available ones, and the pearls and pitfalls in their use.

You will learn to:

- Evaluate morphologically abnormal products of conception specimens for signs of early hydatidiform mole
- Interpret and integrate p57 immunohistochemistry, DNA ploidy testing, and molecular genotype testing in the evaluation of possible early hydatidiform mole
- Distinguish trophoblastic proliferations and trophoblastic tumors from their major diagnostic mimickers
- Apply a strategic approach to the selection of immunohistochemical stains to diagnose trophoblastic proliferations and tumors

Faculty

Karuna Garg, MD

Joseph T. Rabban, MD, MPH

9:30-11:30 AM



S1705 CAP Foundation Keitges Program on Medical Ethics: Get Tweeting: A Hands-On Interactive Twitter Primer for Pathologists

2.0 CME CREDITS

Twitter use by physicians, especially pathologists, continues to rapidly grow. Twitter provides an easy-to-use communications platform for rapid education, news, and networking that helps busy pathologists stay engaged and informed without taking up much time. Many pathologists see the benefits of joining Twitter but are unsure about how to get started. This hands-on workshop will teach you everything you need to know: how to set up an account, how to use @ and #, and how to tailor Twitter to your professional goals and needs. Faculty will briefly discuss other types of social media as well. Attendees will receive personalized one-on-one assistance from experienced Twitter users during the workshop. If you have been interested in joining Twitter but have been dragging your feet, this course is for you!

You will learn to:

- Set up, configure, and use a professional Twitter account
- Identify and avoid privacy and ethical violations while using Twitter
- Identify and implement a variety of different ways Twitter can benefit pathologists

Faculty

Jerad M. Gardner, MD, FCAP

Xiaoyin (Sara) Jiang, MD, FCAP

Cosponsored by The Pierre W. Keitges, MD, Medical Ethics Endowment Fund and Program on Medical Ethics are under the aegis of the CAP Foundation. The program addresses aspects of pathology from an ethical perspective.

9:30-11:30 AM



S1739 What's Trending? Instructive Breast Pathology Cases to Better Equip You and Your Laboratory for the Rapidly Changing Clinical and Molecular Landscape of Breast Cancer

2.5 CME/SAM CREDITS

As clinical practices change, it is imperative for pathologists to integrate current management guidelines into the laboratory. Through a case-based format that includes audience participation, the faculty will address recent practice trends in breast pathology. Faculty will cover standardization of processing and reporting postneoadjuvant chemotherapy-treated breast specimens. The second part of the course will focus on high-risk lesions encountered in core biopsies; it will include illustrative examples to reinforce diagnostic criteria and current molecular data in the literature. Finally, the course will review the integration of molecular prognostic assays into the daily workflow of the practicing pathologist. Upon completion of the course, practicing pathologists will be sufficiently skilled to manage recently employed changes in trends in breast pathology.

You will learn to:

- Examine the postneoadjuvant chemotherapy-treated breast specimen in a standardized manner
- Report the findings of the postneoadjuvant chemotherapy-treated breast specimen
- Classify high-risk lesions in needle core biopsy samples
- Recognize the clinical ramifications of the diagnoses of high-risk lesions in needle core biopsy samples
- Communicate the findings of high-risk lesions in needle biopsy samples to clinicians
- Integrate molecular prognostic assays into the laboratory workflow
- Communicate information about molecular prognostic assays to clinicians

Faculty

Timothy M. D'Alfonso, MD, FCAP

Sandra J. Shin, MD, FCAP

Sonal Varma, MD, FCAP

9:30-11:30 AM

V1644 Bladder Biopsy and TURBT: Diagnostic Pitfalls, CIS, and Unusual Tumor Variants
2.0 CME CREDITS

Bladder biopsy and transurethral resections of bladder tumor (TURBT) are difficult specimens for the pathologist to diagnose due to tissue fragmentation, poor orientation, procedural artifacts, and numerous mimickers. Identifying depth of tumor invasion and differentiating between reactive urothelium and urothelial carcinoma in situ are challenging. Furthermore, there are several tumor variants that can easily be missed. In this session, faculty will review glass slides that illustrate: 1) differentiation of carcinoma in situ (CIS) from reactive urothelium, 2) identification of mimickers of cancer, 3) how to establish the stage and grade of urothelial carcinoma, and 4) unusual variants of bladder cancer. Faculty will also describe the use of immunohistochemistry to aid in rendering a diagnosis.

You will learn to:

- Identify the histologic features of benign mimickers of bladder cancer
- Establish the stage and grade of urothelial carcinoma in bladder biopsy/TURBT specimens
- Differentiate urothelial CIS from reactive urothelium
- Recognize unusual variants of bladder cancer

Faculty

Anil V. Parwani, MD, PhD, FCAP

Debra L. Zynger, MD, MS, FCAP

10:30-11:30 AM



M1710 Problems and Controversies in the Interpretation of Thyroid Nodules

1.25 CME/SAM CREDITS

As a pathologist, if you are called upon to evaluate thyroid nodules in your routine practice, this course is for you. Faculty will address problem and controversial areas in the interpretation of thyroid nodules, including recent changes in terminology for the encapsulated follicular variant of papillary thyroid carcinoma, correct diagnosis of conventional and follicular variants of papillary carcinoma, unusual variants of papillary carcinoma, and benign and malignant follicular tumors of nonpapillary type. The course will have a case-based approach, with typical examples serving as a basis for broader discussion of the topics. Audience participation in the form of questions and answers will be encouraged.

You will learn to:

- Interpret the criteria for separating benign from malignant follicular nodules of the thyroid
- Identify the role of immunohistochemistry and molecular pathology in the diagnosis
- Explain the new nomenclature noninvasive tumors with papillary features

Faculty

Saul Suster, MD, FCAP

NOON–1:00 PM

Round Table Discussions—Lunch Included

1.0 CME/CE CREDIT

Join the experts for lunch! Exchange information and share solutions in a relaxed setting with your peers. You will learn to improve your ability to identify solutions to common problems through interactive sessions with colleagues. An additional fee applies.

R1609 Indigestion? Difficult Physicians and How to Deal With Them

Faculty

Paul Bachner, MD, FCAP

R1691 Current Payment Policy Challenges in Pathology Practice

Faculty

Jonathan L. Myles, MD, FCAP

R1698 Essential Immunohistochemical and Molecular Markers for General CNS Glial Tumors

Faculty

Mary E. Fowkes, MD, PhD, FCAP

 R1702 Twitter Beyond the Basics: Analytics, Journal Clubs, and Optimizing Your Efficiency

Faculty

Xiaoyin (Sara) Jiang, MD, FCAP

 R1747 Flow Cytometric Analysis of B-Cell Lymphoproliferative Disorders

Faculty

David M. Dorfman, MD, PhD, FCAP

2:00-4:00 PM

S1560 Diagnostic Challenges in Low-Grade B-Cell Lymphomas

2.0 CME CREDITS

This course is a case-based presentation, addressing the challenges and pitfalls in the morphologic assessment of follicular lymphoma (FL), mantle cell lymphoma (MCL), and chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL). FL, MCL, and CLL/SLL are common entities diagnosed in lymph node biopsies; however, each of them is associated with diagnostic challenges. The first challenge that presenters will address includes histologic grading (core versus excisional biopsy, interobserver variability) and pattern in FL. Additionally, faculty will cover the difficulty of morphologic variants of FL (pediatric-type, floral variant, marginal zone, or plasmacytic differentiation, in situ versus partial involvement), MCL (blastoid, pleomorphic), CLL/SLL (prominent proliferation centers), and their clinical significance. And finally, presenters will address atypical immunophenotypes, such as CD10(-) FL; CD10(+), BCL-6(+) MCL; CD5(-) MCL; cyclin D1(-) MCL; CD23(+)/FMC-7(-) MCL; CD23(-)/FMC-7(+) CLL/SLL; or cyclin D1 expression in CLL/SLL.

You will learn to:

- Describe the morphologic variants of FL and their clinical implications
- Discuss the challenges and limitations of histologic grading in FL
- Distinguish the morphologic variants of MCL and their clinical significance
- Interpret the clinical impact of atypical immunophenotypes in low-grade lymphomas

Faculty

Yuri D. Fedoriw, MD, FCAP

Horatiu Olteanu, MD, PhD, FCAP



S1587 Diagnostic Solutions to Problematic Nonsquamous Head and Neck Neoplasms

2.5 CME/SAM CREDITS

Biopsy pathology of nonsquamous head and neck neoplasms remains a diagnostic challenge due to scarcity, limited tissue size, poor tissue orientation, crush- or cautery-induced artifact, and spectrum of overlapping histomorphologic features. The presenter will review practical aspects of histopathology/immunohistopathology, differential diagnosis, and molecular pathology (when applicable) of nonsquamous head and neck neoplasms. Using a case-based format, faculty will present information on how neoplasms are subdivided by their principal histopathologic feature(s), such as clear cell, oncocytic, basaloid, large rounded cell, and spindled histology. Additionally, faculty will focus on the sinonasal region, minor salivary glands, oral cavity, soft tissue, and larynx. Major salivary gland neoplasms are discussed sparingly. Finally, discussion will concentrate on diagnostic pitfalls, appropriate immunohistochemical selection, and updated IHC panels of nonsquamous neoplasms.

You will learn to:

- Recognize the histopathology and differential diagnosis of basaloid/rounded cell neoplasms of the head and neck
- Assess and practice proper immunohistochemical testing in nonsquamous head and neck cancers
- Discriminate among problematic mesenchymal neoplasms of the head and neck
- Interpret challenging clear cell head and neck neoplasms
- Review the common as well as uncommon oncocytic and oncocyte-like neoplasms arising in the head and neck

Faculty

Paul E. Wakely Jr., MD

2:00-4:00 PM



S1593 Endometrial Cancer: What You Need to Know

2.5 CME/SAM CREDITS

Take this course to receive a review of valuable and updated information, which will enable participants to approach cases of endometrial cancer effectively utilizing the most current scientific data. Faculty will address the most frequently encountered and critical issues in this area, including standard guidelines for proper intraoperative assessment as well as an emerging paradigm regarding the role of frozen section in endometrial cancer, clues to ensure an accurate diagnosis and histotype, and the recognition of artifacts that can alter the FIGO stage or case management. Additionally, the presenters will cover the use and proper interpretation of immunohistochemical stains and the roles of microsatellite instability testing and sentinel lymph node technique.

You will learn to:

- Apply a systemic approach to accurately diagnose endometrial cancer
- Select and interpret immunohistochemical studies to assist in diagnosing the endometrial cancer type
- Recognize features that could impact the treatment and prognosis of these neoplasms
- Identify the role of microsatellite instability testing in endometrial cancer
- Identify the role of sentinel lymph node technique in the setting of endometrial cancer

Faculty

Elizabeth D. Euscher, MD, FCAP

Anais Malpica, MD

S1620 Medicare's New Quality Payment Program and the Physician Fee Schedule—You Can Run But You Can't Hide

2.0 CME CREDITS

In March 2015, Congress passed H.R. 2, the [Medicare Access and CHIP Reauthorization Act of 2015](#) which repealed the sustainable growth rate (SGR) and replaced the current quality programs with a new quality payment program (QPP) that creates two payment pathways: 1) the Merit-based Incentive Payment System (MIPS) and 2) the Alternative Payment Model (APM). MIPS combines the current pay for performance programs, the Physician Quality Reporting System (PQRS), Meaningful Use (MU), and Value-Based Payment Modifier (VBM) along with a new category, Clinical Practice Improvement Activities, to create a single quality score. Starting in 2019, physicians can earn bonuses or receive penalties through MIPS of up to 4% depending on their performance in 2017. It will increase to 9% in 2022. Faculty will explain the program and its implementation and provide current information on how to successfully participate.

You will learn to:

- Describe the history and purpose of pay for performance programs
- Explain who is subject to the QPPs, MIPS, and APM
- Identify ways to successfully participate in the MIPS program
- Assess the potential ramifications for not successfully participating

Faculty

W. Stephen Black-Schaffer, MD, FCAP

Diana M. Cardona, MD, FCAP

Patrick Godbey, MD, FCAP

Jonathan L. Myles, MD, FCAP

2:00-4:00 PM



S1671 Patient Samples Fit for Molecular Analysis: The Fate of Precision Medicine Is in Your Hands

2.5 CME/SAM/CE CREDITS

Learn about the quality requirements for human biospecimens that are destined for genomic or proteomic analysis in this course. Faculty will review the biospecimen science that demonstrates the effects of the preanalytic variables of collection, handling, processing, and storage on the biomolecular quality and composition of human tissues and blood and how those effects alter scientific analysis data in artifactual ways. Faculty will discuss the work being done by the CAP Specimen Standards for Precision Medicine Project to address the urgent needs to implement evidence-based practices in anatomic pathology to control, eliminate (where possible), and record key variables that have the greatest detrimental impact on biospecimen quality and analysis results.

You will learn to:

- Identify the top 10 preanalytic variables that have the largest detrimental impact on biospecimen quality and composition in genomic and proteomic analyses
- Describe the performance metrics that need to be met to control key preanalytic variables and standardize specimens for molecular analysis
- Appraise existing practices in anatomic pathology and analyze the barriers and opportunities for practice improvement in applying specimen standards

Faculty

Kenneth J. Bloom, MD, FCAP

Carolyn C. Compton, MD, PhD, FCAP

David G. Hicks, MD, FCAP

Michael J. Misialek, MD, FCAP



S1685 How Do I Deal With This? Challenging Issues in Clinical Laboratory Medicine

2.5 CME/SAM CREDITS

The daily challenges of clinical laboratory oversight are mushrooming. Keeping abreast of changes in technology, new and innovative clinical programs for patient care, and new attendant clinical guidelines, compounded by a shifting regulatory landscape, contribute to these challenges. The faculty will provide up-to-date information and recommendations on how to manage a number of key issues that laboratory pathologists routinely encounter. Through an interactive presentation of cases covering a variety of topics (ie, diabetes testing algorithms, hepatitis testing to support screening and management, blood bank inventory management), participants will reflect on their management style and gain new knowledge of current recommendations and alternative approaches for management.

You will learn to:

- Apply new guidelines to assist in management of patients
- Proactively address changing laboratory support of patients in various settings (eg, accountable care organizations, shared savings plans)
- Share successful approaches on managing change that others can duplicate in their laboratories

Faculty

D. Robert Dufour, MD, FCAP

Lynne Uhl, MD, FCAP

2:00-4:00 PM



S1727 Beyond “Elevated Liver Enzymes”: Recognizing Patterns of Liver Injury
2.0 CME CREDITS

The liver has a limited pathologic response to a myriad of insults. The term *elevated liver enzymes* is frequently the only clinical data that accompanies liver pathology specimens. Familiarity with common patterns of liver injury and integrating these findings with clinical history leads to an accurate diagnosis. The aim of this course is to present a systematic approach to recognizing features of chronic and acute liver injury (drug related, autoimmune, fibrosis) encountered in everyday pathology practice.

You will learn to:

- Identify patterns of liver injury caused by biliary disease, autoimmune disease, and chronic hepatitis
- Effectively diagnose and differentiate cirrhosis from hepatoportal sclerosis
- Recognize drug reaction (ie, cholestasis, bile duct injury)
- Integrate laboratory values and pathologic features to formulate a cohesive diagnosis

Faculty

Safia N. Salaria, MD, FCAP

Mary K. Washington, MD, PhD, FCAP

3:00-4:00 PM



M1749 Mission Control—Cancer Protocols and the AJCC Cancer Staging Manual, 8th Edition: Changes to Staging and Implications for Pathology
1.0 CME CREDIT

With the American Joint Committee on Cancer (AJCC) release in 2016 of the *AJCC Cancer Staging Manual*, 8th edition, extensive modifications to the CAP cancer protocols are required to allow pathologists to report the new 8th edition staging starting January 1, 2018. Faculty will present the vision, mission, and high concepts behind the AJCC 8th edition staging design. Additionally, faculty will provide an overview of the ways that the CAP is developing design and content modifications to the CAP cancer protocols and electronic Cancer Checklists (eCCs) to allow for changing staging elements, as well as adding additional guidance for the usage of the protocols for patient care and for accreditation purposes.

You will learn to:

- Explain the value of the cancer protocols to patient care
- Distinguish the difference between synoptic reporting and structured reporting and the value both bring to cancer patients
- Demonstrate the key changes to the staging elements of the TNM classification system with the *AJCC Cancer Staging Manual*, 8th edition

Faculty

Mahul B. Amin, MD, FCAP

Thomas P. Baker, MD, FCAP

8:00-9:00 AM



M1661 CAP-IASLC-AMP Molecular Testing Guidelines for Selection of Lung Cancer Patients—Revision
1.25 CME/SAM CREDITS

The advent of targeted therapies based on predictive biomarkers has dramatically altered the role of the pathologist in lung cancer patient care. This course reviews new recommendations in the revised CAP/International Association for the Study of Lung Cancer (IASLC)/Association for Molecular Pathology (AMP) lung cancer predictive biomarker guidelines for community pathologists, academic pathologists, molecular pathologists and trainees for daily patient care practice, and for multidisciplinary tumor boards. Faculty will review the evidence and logic behind the new recommendations and will cover topics such as recommendations regarding new actionable predictive biomarkers, recommendations for testing for EGFR and ALK TKI resistance, and recommendations regarding new testing methodologies including ALK translocation screening by immunohistochemistry.

You will learn to:

- Explain the recommendations about the new actionable biomarkers for lung cancer
- Identify the impact of the new recommendations on patient care and appropriate methods of testing (preanalytic, analytic, and postanalytic actions)
- Identify when and how to test for EGFR and ALK resistance based on new observations and evidence since the first guideline
- Apply new recommendations about developments in biomarker testing with an emphasis on immunohistochemistry screening for ALK translocations

Faculty

Neal I. Lindeman, MD, FCAP

Cosponsored by the Association for Molecular Pathology (AMP)

8:00-10:00 AM



S1725 Method Validation and Verification: Case Studies and Laboratory Challenges
2.0 CME CREDITS

Method validation and verification studies establish the performance of our laboratory instrumentation. Medical directors must be proficient in the studies required as well as the statistical interpretation of the study results. This course will provide both trainees as well as established medical directors with the key information about method validation requirements. Participants will gain proficiency interpreting method statistics and consulting with physicians on patient impact of method performance through use of real-world examples and interactive discussion.

You will learn to:

- Identify the difference between method validation and method verification
- Describe the studies required to document method performance
- Interpret method performance data and statistical study outcomes
- Identify challenges to method performance using real-world examples

Faculty

James H. Nichols, PhD, D(ABCC)

Lauren N. Pearson, DO, MPH, FCAP

9:30-11:30 AM

N1686 Launching the Young Pathologist: A Forum on the Transition from Pathology Trainee to Effective Pathology Practitioner
2.0 CME CREDITS

The transition from pathology residency and/or fellowship training to junior attending status is often a source of great anxiety on the part of both new-in-practice pathologists and those who hire them. This workshop will cover the challenges of transitioning from pathology training to effective pathology practice, from the perspective of both pathologists in their first job and the people who hire and mentor these young pathologists. The faculty (a pathology educator, two employers of pathologists [one community based and one academic], and a new-in-practice pathologist) will discuss best practices in this key transition and will describe ongoing efforts by the pathology education community to better align pathology training and modern pathology practice. Faculty will solicit input from participants to inform these ongoing efforts. The workshop, cosponsored by the Association of Pathology Chairs, will include presentations and a panel discussion. This session should be of interest to residents, fellows, new-in-practice pathologists, heads of pathology groups, and pathology department chairs.

You will learn to:

- Describe the major challenges in the transition from pathology training to successful pathology practice
- List best practices in helping new-in-practice pathologists safely and effectively navigate the first one to three years of practice
- Detail the ongoing efforts to better align pathology training with the needs of modern pathology practice and provide input on these efforts

Faculty

W. Stephen Black-Schaffer, MD, FCAP
Barbara S. Ducatman, MD, FCAP
Gene N. Herbek, MD, FCAP
Donald S. Karcher, MD, FCAP (Moderator)
Nicole D. Riddle, MD, FCAP

Cosponsored by the Association of Pathology Chairs (APC)

9:30-11:30 AM



S1531 Emerging Issues in Lung Cancer Predictive Biomarkers: Complementary Perspectives From Pathology and Medical Oncology
2.5 CME/SAM CREDITS

The advent of targeted therapies based on predictive biomarkers has dramatically altered the role of the pathologist in lung cancer patient care. The faculty will provide complementary perspectives from pulmonary pathologists and a medical thoracic oncologist on emerging issues in lung cancer predictive biomarkers. The faculty will also provide a practical multidisciplinary review of evolving topics for community pathologists, academic pathologists, and trainees for daily practice and tumor boards. Topics will include information on new predictive biomarkers for which oncologists are now ordering tests, the implications and challenges for immune therapy and associated PD-L1 testing, and the use of new antibodies for ALK immunohistochemistry for efficacy and cost reduction. The faculty will also offer a practical approach to next-generation sequencing panels, including squamous cell carcinoma of the lung.

You will learn to:

- Identify new lung cancer biomarkers
- Describe the clinical rationale of patient selection and treatment based on new biomarkers
- Recognize the implications and challenges for immune therapy and associated PD-L1 testing
- Apply ALK immunohistochemistry to daily practice for efficacy and cost reduction
- Apply data meaningfully from next-generation sequencing panels to patient care

Faculty

Eric H. Bernicker, MD

Philip T. Cagle, MD, FCAP

Ross A. Miller, MD, FCAP

Cosponsored by the Pulmonary Pathology Society (PPS)

9:30-11:30 AM



S1575 Sequence Gazing: Variant Calling and Interpretation for Next-Generation Sequencing

2.5 CME/SAM/CE CREDITS

Attend this clinical next-generation sequencing (NGS) testing course to learn more about the emerging NGS component of precision medicine. These tests generate large amounts of genetic data that must undergo bioinformatic analysis to extract clinically useful results. While “sequence gazing” initially appears to be a daunting and technical task, the basic principles are approachable for all pathologists. In this session, faculty will review the basic principles of sequencing and present the steps required to identify variants in clinical data. Additionally, faculty will present the use of public databases and medical literature to determine the significance of these variants for patient care. Case studies will be used to reinforce concepts, such as reporting of incidental variants and variants of uncertain significance.

You will learn to:

- Summarize the target enrichment methods used for clinical NGS
- Distinguish classes of genetic variation detected by NGS
- Describe steps involved in processing NGS data to identify sequence variants
- Differentiate between clinically significant and insignificant sequence variants
- Describe the issues raised by discovery of incidental variants

Faculty

Eric J. Duncavage, MD, FCAP

Ian S. Hagemann, MD, PhD, FCAP

Cosponsored by the Association for Molecular Pathology (AMP)



S1643 Your Turn: Management of the Bleeding Patient

2.5 CME/SAM CREDITS

Welcome to Wednesday. The day is typical, with three frozen sections for a parathyroid case and several cases awaiting review and sign-out. While you are preparing for tumor board, you receive a page from the blood bank. The emergency department has used several uncrossmatched group O units for a trauma patient and a sample for ABO typing has not arrived. They are requesting six plasma units. This session will discuss the management of patients who are bleeding or at risk of bleeding. Using case-based scenarios, the faculty will lead an interactive session and provide considerations when making transfusion recommendations. Faculty will cite recent literature, cover current indications for platelets, plasma, and cryoprecipitate, and discuss management of newer anticoagulants.

You will learn to:

- Advise clinicians on the appropriate use of vitamin K instead of plasma
- Help develop protocols for patients on warfarin experiencing intracranial hemorrhage
- Cite at least one recent guideline on indications and dosing for platelet transfusions

Faculty

Thomas DeLoughery, MD

Theresa A. Nester, MD, FCAP

Cosponsored by the American Association of Blood Banks (AABB)

9:30-11:30 AM



S1708 Problem Cases in Surgical Pathology: Slide Seminar
2.0 CME CREDITS

The course will address problem areas of diagnosis in surgical pathology using a slide seminar format. Faculty will present selected cases and use them as a platform for an in-depth discussion of the topic. Discussion will center on modern criteria for diagnosis, the pitfalls associated with the lesions discussed, and the role and limitations of special techniques for diagnosis. An interactive audience response system will engage the participation of the audience, and questions and answers will be encouraged.

You will learn to:

- Identify new entities in surgical pathology
- Recognize common pitfalls involved in the diagnosis of uncommon tumors
- Identify the role and limitations of special techniques for the diagnosis of uncommon tumors

Faculty

Anais Malpica, MD
Brian P. Rubin, MD, PhD, FCAP
Saul Suster, MD, FCAP
Paul E. Wakely Jr., MD

Cosponsored by the Arkadi M. Rywlin (AMR) International Pathology Slide Seminar Club

10:30-11:30 AM

M1681 Molecular Oncology Tumor Board: Lung Cancer
1.0 CME CREDIT

In the format of a tumor board, experts from medical oncology and molecular pathology will discuss the generation and translation of molecular tumor profiling results and how they translate into improved outcomes for cancer patients, using lung cancer as an example. The rapid growth and expansion of molecular testing capabilities and the use of these diagnostic tests for clinical decision making has brought about significant opportunities and challenges. Physicians struggle to keep abreast of the new information generated by the rapidly changing field of tumor genomics. Through the discussion of a patient case, faculty will focus on relevant molecular pathways, selection and generation of molecular panels, interpretation of results, identification of actionable aberrations, and the translation of this information into improved patient care. As genetics and genomics become increasingly important in the treatment of cancer, the need for educational resources to help providers incorporate these new testing methodologies into practice has become vital.

You will learn to:

- Explain key concepts in tumor genomics in lung cancer
- Discuss the interpretation of results from molecular tumor profiles, including the identification of actionable aberrations
- Identify how tumor profiling data may be utilized to direct care and treatment strategies when applied to patient cases

Faculty

Daniel G. Haller, MD
Benjamin Levy, MD
Laura J. Tafe, MD, FCAP

Cosponsored by the American Society of Clinical Oncology (ASCO)

NOON–1:00 PM

Round Table Discussions—Lunch Included

1.0 CME/CE CREDIT

Join the experts for lunch! Exchange information and share solutions in a relaxed setting with your peers. You will learn to improve your ability to identify solutions to common problems through interactive sessions with colleagues. An additional fee applies.

R1695 Current Payment Policy Challenges in Pathology Practice

Faculty

Jonathan L. Myles, MD, FCAP



R1711 Dealing With Matters of Professionalism in the Workplace

Faculty

Ronald E. Domen, MD, FCAP

Suzanne Z. Powell, MD, FCAP



R1735 Adventures in Method Validation

Faculty

James H. Nichols, PhD, D(ABCC)

Lauren N. Pearson, DO, MPH, FCAP



R1737 Managing the People Who Manage Your Information System

Faculty

John H. Sinard, MD, PhD, FCAP



R1745 Cardiac Marker Health Check-up

Faculty

Darci R. Block, PhD, D(ABCC)

Deanna D.H. Franke, MT(ASCP), PhD, D(ABCC)

Cosponsored by the American Association for Clinical Chemistry (AACC)

1:30-2:30 PM



M1530 Practical Application of Lean and Six Sigma for Improving Laboratory Impact

1.25 CME/SAM/CE CREDITS

Use information from this course to improve laboratory services. Faculty will provide a high-level overview of major quality strategies and process tools, including Lean and Six Sigma. Additionally, faculty will share information on the utility and application of these tools, including workflow mapping, standardized work, and value stream mapping, using real-world examples. The importance of leadership in ensuring the success of laboratory quality improvement endeavors will be emphasized. At the conclusion of the course, participants will be able to identify processes in their laboratory that could be optimized by applying the Lean and Six Sigma tools and techniques to enhance their laboratory value.

You will learn to:

- Describe the philosophy and methodology of Lean and Six Sigma
- Identify Lean and Six Sigma project opportunities in your laboratory
- Apply Lean and Six Sigma techniques to improve laboratory impact

Faculty

Peter L. Perrotta, MD, FCAP

1:30-3:30 PM



S1589 Molecular Testing Guidelines for the Selection of Colorectal Cancer Patients for Targeted and Conventional Therapies

2.5 CME/SAM CREDITS

Using molecular testing to enhance the response of colorectal cancers (CRC) to targeted and conventional therapies has been the center of many recent studies. Faculty will review the evidence-based recommendations for the molecular testing of CRC tissues to guide EGFR-targeted therapies and conventional chemotherapy regimens. These recommendations were developed through the collaboration between four societies: 1) American Society of Clinical Pathology (ASCP), 2) College of American Pathologists (CAP), 3) Association for Molecular Pathology (AMP), and 4) American Society of Clinical Oncology (ASCO). This session will present the recommendations formulated from the intensive systematic review of over 3,000 articles and will allow time for interactive discussion with the panelists.

You will learn to:

- Describe current guidelines and recommendations for molecular testing in the evaluation of CRC to determine prognosis and prediction of response to therapies
- Identify recommended laboratory practice guidelines for molecular testing of key markers (eg, *KRAS*, *NRAS*, *BRAF*, *MSI*) to determine CRC therapies
- Apply recommended guidelines for molecular testing for CRC

Faculty

Carmen J. Allegra, MD

Stanley R. Hamilton, MD, FCAP

Antonia R. Sepulveda, MD, PhD, FCAP

1:30-3:30 PM



S1613 Diffuse Large B-Cell Lymphomas: Greatest Hits, Doubles Hits, and Various Shades of Gray Zone Lymphomas
2.5 CME/SAM CREDITS

Diffuse large B-cell lymphomas (DLBCLs), which encompass the most commonly observed lymphoma category, are highly heterogeneous and are composed of numerous variants and clinicopathologic subtypes. Furthermore, with the rapid advances in the understanding of the genetic basis for these subtypes, it is challenging for practicing surgical pathologists and hematopathologists to keep abreast of advances in ever-evolving diagnostic criteria, immunophenotypic and genetic prognostic factors, and therapeutic markers. Composed of expert hematopathologists and a hematologist oncologist with clinical expertise in lymphoma, faculty will synthesize contemporary approaches to diagnosis and classification of DLBCLs and discuss the clinical management and therapeutic implications. Additionally, in response to the 2016 published update of the *World Health Organization (WHO) Classification of Tumours of Haematopoietic and Lymphoid Tissues*, this course will highlight important changes that will impact the diagnostic approach to DLBCLs. Further, the faculty will focus on how to distinguish DLBCLs from other aggressive B-cell lymphomas, such as Burkitt lymphoma and unclassifiable (intermediate or gray zone) B-cell lymphomas (BCLUs), as well as in what instances classify double-hit lymphomas (DHLs).

You will learn to:

- Classify DLBCLs using currently available tools
- Use immunohistochemical and molecular studies to identify clinically relevant subtypes of DLBCLs
- Distinguish DLBCLs from other aggressive B-cell lymphomas using contemporary laboratory tests
- Become familiar with the clinical management decisions and therapeutic implications associated with patients with aggressive B-cell lymphoma

Faculty

Adam Bagg, MD

Daniel J. Landsburg, MD

Megan S. Lim, MD, PhD, FCAP

1:30-3:30 PM



S1628 Body Fluid Chemistry Analysis: Who Knew It Could Be So Complicated?

2.5 CME/SAM/CE CREDITS

This interactive session will use case-based examples to present body fluid cases and testing scenarios encountered in the clinical chemistry laboratory. Participants will relate and apply the necessary components and considerations of the preanalytic, analytic, and postanalytic phases of testing. Further, faculty will focus on how to interpret regulatory requirements, formulate a strategy to address regulatory requirements through analytical validation of body fluid chemistry testing methods, assess clinical utility, and discuss the limitations of current methods.

You will learn to:

- Recognize current body fluid testing practices in your laboratory
- Identify potential gaps in your laboratory's body fluid testing practices
- Interpret chemistry analyte results in body fluids for patient management
- Design a validation plan to measure chemistry analytes in body fluid specimens that will address regulatory requirements

Faculty

Darci R. Block, PhD, D(ABCC)

Deanna D.H. Franke, MT(ASCP), PhD, D(ABCC)

Cosponsored by the American Association for Clinical Chemistry (AACC)



S1717 Vignettes in Ethics and Professionalism: A Case-Based Discussion

2.5 CME/SAM CREDITS

Unprofessional behaviors may occur at any level in any organization and can compromise workplace morale as well as patient care. The faculty will guide participants through a series of hypothetical scenarios where unprofessional behavior is observed in pathology practice. Participants will employ an audience response system to monitor opinions before and after a discussion of key points. Participants will learn to recognize unprofessional behaviors and to focus an appropriate response of the observed behavior while avoiding pitfalls that may produce unintended consequences to the responder or the organization. From any level of experience, participants will be encouraged to share their experiences, either as having had to confront others or having been confronted about unprofessional conduct.

You will learn to:

- Recognize unprofessional behaviors in the workplace
- Know the roles of stated or imputed intentions or diagnoses of those exhibiting unprofessional behaviors
- Respond to unprofessional behavior in a way that is commensurate with its severity and recurrence
- Avoid breaches of privacy or discrimination issues when responding to unprofessional behavior

Faculty

Ronald E. Domen, MD, FCAP

Robert D. Hoffman, MD, PhD, FCAP

Suzanne Z. Powell, MD, FCAP

3:00-5:00 PM



S1640 Wake Up! It's Not Too Early to Lead Quality Improvement

2.5 CME/SAM CREDITS

This interactive workshop will help you build skills related to quality improvement and laboratory medical direction. The course content targets trainees and new-in-practice pathologists who have limited experience in quality improvement; however, pathologists wishing to strengthen their skills in these topics are encouraged to attend. A discussion of quality in the laboratory and a practice exercise using the Plan, Do, Check, Act (PDCA) cycle will kick off the workshop. Faculty will identify quality improvement tools and will facilitate a small group activity using process (flow) mapping. Attendees will have the opportunity to practice their new skills using a root cause analysis tool under faculty guidance. Ample time for questions and discussion will be available.

You will learn to:

- Define the concept of quality in the laboratory and recognize opportunities for quality improvement
- Use the PDCA cycle
- Utilize process (flow) mapping as a quality improvement tool
- Identify tools to use to drive quality improvement
- Define a sentinel event and perform a root cause analysis

Faculty

Jennifer Laudadio, MD, FCAP

Ericka Olgaard, DO, FCAP



S1729 A Practical Approach to Diagnosing Common Informatics Problems: What Every Pathologist Needs to Know

2.0 CME CREDITS

Pathologists and laboratory directors face problems on a regular basis that have informatics components. Proper resolution of these issues requires the participation of a laboratory professional in the process. Therefore, it is critical for pathologists and medical directors to understand how to effectively approach, diagnose and treat common informatics problems in conjunction with other clinical providers, hospital/client leadership, IT staff, and laboratory staff. Faculty will use team-based learning to work through four practical problems in the management of laboratory data, covering common issues such as laboratory orders, laboratory results, implementation of new technology, and security of laboratory data. Both process-based as well as technology-based issues will be discussed. Faculty will lead participants to develop their clinical diagnostic informatics acumen.

You will learn to:

- Participate in the diagnosis of common informatics-related problems that occur in the laboratory
- Communicate and work with local information management resources toward problem resolution
- Identify the critical role that pathologists can/should play in the overall management strategy of laboratory data for patient care

Faculty

Alexis B. Carter, MD, FCAP

John H. Sinard, MD, PhD, FCAP

Myra L. Wilkerson, MD, FCAP

4:00-5:00 PM



M1722 Hot Topics in Hemostasis
1.0 CME CREDIT

Hemostasis testing is a rapidly changing area of pathology practice. Two hot topics include use of point-of-care (POC) PT/INR and D-dimer testing, particularly the use of age-adjusted D-dimer cutoffs for evaluation of venous thromboembolism (VTE). Faculty will offer a thoughtful analysis of recent literature pertaining to POC PT/INR and D-dimer assays. The presenters will incorporate practical tips, including observations from proficiency testing data and laboratory accreditation issues related to both of these topics. Each topic will have time for questions and answers, along with using an audience response system, to promote discussion among participants.

You will learn to:

- Describe the utility and clinical indication for POC PT/INR analysis
- Assess the differences between POC and central-laboratory PT/INR methods
- Analyze recent guidelines and clinical trials related to age-specific D-dimer cutoff values
- Discuss the risks and benefits of implementing age-specific D-dimer cutoff values

Faculty

Russell A. Higgins, MD, FCAP

Karen A. Moser, MD, FCAP

8:00-9:00 AM



M1662 Not Just “Carcinoid” Anymore: Update on Gastroenteropancreatic Neuroendocrine Neoplasms
1.25 CME/SAM CREDITS

Neuroendocrine neoplasms of the gastrointestinal tract and pancreas can seem like a quagmire. With the updated WHO classification guidelines, pathologists must skillfully utilize diagnostic criteria, immunohistochemical staining, and proper terminology to convey critical information to a patient's clinical team. This session will dissect the new guidelines, including their gray areas. Additionally, faculty will discuss neuroendocrine lesions by organ system and recommend best practices for using immunohistochemistry.

You will learn to:

- Diagnose and categorize gastroenteropancreatic neuroendocrine neoplasms using correct criteria and terminology
- Distinguish histologic features of well-differentiated neuroendocrine tumor and poorly differentiated neuroendocrine carcinoma
- Identify crucial distinctions among neuroendocrine neoplasms in different gastrointestinal organs
- Employ judicious immunohistochemical staining for proper specimen work-up

Faculty

Raul S. Gonzalez, MD, FCAP
Chanjuan Shi, MD, PhD, FCAP

8:00-10:00 AM



S1570 A Practical Approach for Challenging Dermatopathology Cases: What Doesn't Kill You Makes You Stronger
2.5 CME/SAM CREDITS

Do you have an interest in dermatopathology? If so, attend this session to hear faculty elaborate on pitfalls in the diagnosis of cutaneous neoplasms that may result in diagnostic errors with significant clinical impact. Faculty will focus on histologic mimickers, including skin malignancies that resemble reactive conditions or benign neoplasms, benign conditions that masquerade as malignancies, and tumors that are prone to be mistaken for other types of cutaneous malignancies. Faculty will structure the session as a case-oriented didactic lecture and present real cases from their experiences. Additionally, faculty will discuss the salient features of each entity and provide tips to avoid misdiagnosis.

You will learn to:

- Recognize a variety of dermatopathology cases that are prone to be misdiagnosed
- Identify histologic features that are useful in preventing pitfalls in diagnosis
- Determine appropriate ancillary studies that will help you arrive at the correct diagnosis

Faculty

Aleodor A. Andea, MD, MBA, FCAP
Deborah L. Cook, MD, FCAP

8:00-10:00 AM



S1748 Welcome to the REAL World: Crucial Survival Tips for the New Medical Director

2.5 CME/SAM CREDITS

New laboratory directors are rarely prepared for regulatory and accreditation issues that face them. Even very seasoned pathologists and laboratory directors struggle to keep up with new regulatory requirements that pose high risk. Faculty will use “stories” of regulatory and accreditation challenges to engage the audience in a discussion on these complex issues. One speaker will focus on unexpected issues encountered in the first three to five years in practice as a laboratory director including proficiency testing and inspection issues; a second speaker will focus on newer regulatory and accreditation issues that pose high risk, such as interlaboratory proficiency testing communication.

You will learn to:

- List regulatory issues that can adversely impact the laboratory
- Explain how the laboratory can optimize proficiency testing processes (eg, ordering, performance, reporting results, and investigation/response) to avoid accidental regulatory/compliance penalties
- Describe regulatory/compliance issues that recent graduates are not prepared to handle as a new laboratory director
- Define new regulatory/compliance trends or issues of which even experienced laboratory directors may not be aware

Faculty

Gaurav Sharma, MD, FCAP

Christina M. Wojewoda, MD, FCAP

8:00-11:30 AM

H1634 Genomic Pathology 101: An Interactive Workshop

3.0 CME CREDITS

As diagnosticians, all pathologists must understand genomic testing. The cost of a whole exome sequence is approaching \$1,000; and next-generation sequencing (NGS) has already led to personalized chemotherapy for cancer patients and is now being rapidly incorporated into clinical care. Using a case-based, interactive, small-group approach, faculty will review introductory principles related to the development of genomic assays and interpretation of results. The workshop will also include practical hands-on instruction with the use of online genomic pathology tools. As such, participants should bring a tablet or laptop (preferred) so they can participate in this part of the course. Members of a national genomics education committee who are experts in molecular pathology, medical education, and genetic counseling have developed this session.

You will learn to:

- Identify the benefits and limitations of genomic analyses for advanced cancer patients
- Describe the role of pathologists in facilitating genomic testing and reporting results
- Discuss the process and limitations of NGS-data analysis
- Utilize online tools to interpret the clinical significance of genomic data

Faculty

Richard L. Haspel, MD, PhD, FCAP

Debra G.B. Leonard, MD, PhD, FCAP

John D. Pfeifer, MD, PhD, FCAP

9:30-11:30 AM



S1524 Critical Differential Diagnoses in Soft Tissue Pathology

2.5 CME/SAM CREDITS

In this course, the faculty will provide a structured approach to dissecting common and critically important differential diagnoses in soft tissue tumors of the dermis, subcutis, and deep soft tissues. The presenters will not only provide the conventional wisdom but will also dig deep down into their collective experience to give diagnostic pearls not found in most textbooks. Their approach, based on countless hours of teaching these differential diagnoses to residents and surgical pathologists, will allow participants to conclusively sort out difficult differential diagnoses using histologic features as well as immunohistochemical and molecular studies. Whether participants are residents or seasoned surgical pathologists who occasionally have to deal with the frustration of encountering a soft tissue neoplasm, this course holds value.

You will learn to:

- Formulate an accurate differential diagnosis of common soft tissue tumors based on histologic and clinical cues
- Sort out the differential diagnoses using immunohistochemical markers
- Determine the differential diagnosis using molecular markers

Faculty

Brian P. Rubin, MD, PhD, FCAP



S1633 Practical Challenges in Peripheral Blood Evaluation: A Case-Based Approach

2.5 CME/SAM CREDITS

Peripheral blood smear findings are often the first sign of an abnormality in a patient. In this course, faculty will use a case-based approach to review common challenges in peripheral blood smear evaluation. This will include differential diagnostic considerations for T- and B-cell lymphocytosis, monocytosis, anemia, neutrophil abnormalities, and thrombocytosis. The course will emphasize best practices in the diagnosis of a patient from a peripheral blood smear, including a cost-effective approach to utilizing ancillary studies and recommended next steps. Faculty will provide updates to diagnostic criteria from the 2016 edition of *WHO Classification of Tumours of Haematopoietic and Lymphoid Tissues*. By the end of the course, participants will have reviewed basic principles of diagnosis by peripheral blood smear morphology and updated their knowledge about the diagnostic and biologic significance of key findings.

You will learn to:

- Recognize nonneoplastic and neoplastic disorders in the peripheral blood smear
- Describe key morphologic findings of anemia and what these findings indicate
- Distinguish reactive from malignant causes of lymphocytosis, monocytosis, and thrombocytosis
- Discuss the differential diagnosis of abnormal neutrophil morphology
- Triage peripheral blood specimens for appropriate ancillary testing

Faculty

Devon S. Chabot-Richards, MD, FCAP

Carla S. Wilson, MD, PhD, FCAP

9:30-11:30 AM



S1703 Ancillary Testing in Breast Pathology—Immunohistochemistry and Beyond
2.0 CME CREDITS

Immunostains and other adjunctive studies are commonly used when evaluating breast lesions. Faculty will discuss limitations and pitfalls of these ancillary techniques in diagnostic breast pathology and discuss limitations of the newer molecular adjunctive tests being used to guide patient treatment. A case-based format will be utilized in discussing uses and limitations of myoepithelial cell markers to distinguish benign and in situ from invasive breast lesions, determining breast versus nonbreast origin of metastatic lesions, and distinguishing lobular from ductal lesions. Additionally, faculty will cover the role of immunohistochemistry in the evaluation of papillary, spindle cell, and intraductal proliferative lesions of the breast, and uses and limitations of molecular prognostic signatures and genomic analysis in the evaluation of breast cancers.

You will learn to:

- Evaluate the diagnostic criteria and clinical significance of various benign, in situ, and malignant breast lesions and determine appropriate diagnostic testing
- Evaluate the limitations and pitfalls of ancillary techniques in diagnostic breast pathology
- Evaluate the role and the limitations of the newer molecular adjunctive tests being used to guide patient treatment
- Assess the uses and limitations of genomic analysis (including mutations, copy number variations, translocations, etc) in the evaluation and classification of breast cancers
- Evaluate the uses and limitations of myoepithelial cell markers to distinguish benign and in situ from invasive breast lesions
- Evaluate papillary lesions of the breast, intraductal proliferative lesions, spindle cell lesions, and ductal versus lobular lesions
- Determine breast versus nonbreast origin of metastatic lesions

Faculty

Laura C. Collins, MD, FCAP

Stuart J. Schnitt, MD, FCAP

9:30-11:30 AM



S1732 "New Things" in the 2016 WHO Tumors of the Urinary System and Male Genital Organs Blue Book and 8th Edition of AJCC Staging: What Every Pathologist Should Know

2.5 CME/SAM CREDITS

The publication in 2016 of the *WHO Classification of Tumours of the Urinary System and Male Genital Organs*, 4th edition, and the *AJCC Cancer Staging Manual*, 8th edition, brings forth numerous significant changes in the diagnosis, classification, grading, and staging of genitourinary (GU) cancers, including prostate, bladder, kidney, and testicular. These changes will have significant impact on patient management; therefore, every pathologist should know them. Faculty will discuss clinically important new entities, such as new renal cell carcinoma variants and intraductal carcinoma of the prostate. Further, faculty will compare and contrast the previous and new grading and staging criteria, highlight the critical issues in the grading and staging of GU tumors, and discuss specific diagnostic, grading, and staging criteria for GU tumors.

You will learn to:

- Diagnose and classify new GU tumors
- Apply new and modified grading criteria for GU tumors
- Apply new TNM staging criteria for GU tumors

Faculty

Rajal B. Shah, MD, FCAP

Ming Zhou, MD, PhD

CAP17 FACULTY LIST

Volkan Adsay, MD, FCAP	Mary E. Fowkes, MD, PhD, FCAP
Carmen J. Allegra, MD	Deanna D.H. Franke, MT(ASCP), PhD, D(ABCC)
Mahul B. Amin, MD, FCAP	Jerad M. Gardner, MD, FCAP
Aleodor A. Andea, MD, MBA, FCAP	Karuna Garg, MD
Paul Bachner, MD, FCAP	Mohiedean Ghofrani, MD, MBA, FCAP
Adam Bagg, MD	Patrick E. Godbey, MD, FCAP
Thomas P. Baker, MD, FCAP	Raul S. Gonzalez, MD, FCAP
Sarah M. Bean, MD, FCAP	Wayne W. Grody, MD, PhD, FCAP
Eric H. Bernicker, MD	Ian S. Hagemann, MD, PhD, FCAP
W. Stephen Black-Schaffer, MD, FCAP	Daniel G. Haller, MD
Darci R. Block, PhD, D(ABCC)	Stanley R. Hamilton, MD, FCAP
Kenneth J. Bloom, MD, FCAP	Richard L. Haspel, MD, PhD, FCAP
Thomas A. Buchholz, MD	Gene N. Herbek, MD, FCAP
Philip T. Cagle, MD, FCAP	David G. Hicks, MD, FCAP
Diana M. Cardona, MD, FCAP	Russell A. Higgins, MD, FCAP
Alexis B. Carter, MD, FCAP	Robert D. Hoffman, MD, PhD, FCAP
Devon S. Chabot-Richards, MD, FCAP	James D. Hoyer, MD
Laura C. Collins, MD, FCAP	Kelly K. Hunt, MD
Carolyn C. Compton, MD, PhD, FCAP	Xiaoyin (Sara) Jiang, MD, FCAP
Deborah L. Cook, MD, FCAP	Donald S. Karcher, MD, FCAP
Timothy M. D'Alfonso, MD, FCAP	William J. Karlon, MD, PhD, FCAP
Ivan Damjanov, MD, PhD, FCAP	Todd W. Kelley, MD, MS, FCAP
Diane D. Davey, MD, FCAP	David F. Keren, MD, FCAP
Thomas DeLoughery, MD	Annette S. Kim, MD, PhD, FCAP
Ronald E. Domen, MD, FCAP	Alyssa M. Krasinskas, MD, FCAP
David M. Dorfman, MD, PhD, FCAP	Tai C. Kwong, PhD
Barbara S. Ducatman, MD, FCAP	Daniel J. Landsburg, MD
D. Robert Dufour, MD, FCAP	Jennifer Laudadio, MD, FCAP
Eric J. Duncavage, MD, FCAP	Debra G.B. Leonard, MD, PhD, FCAP
Lars Egevad, MD, PhD	Benjamin Levy, MD
Elizabeth D. Euscher, MD, FCAP	Megan S. Lim, MD, PhD, FCAP
James D. Faix, MD, FCAP	Neal I. Lindeman, MD, FCAP
Fang Fan, MD, PhD, FCAP	Michael A. Linden, MD, PhD, FCAP
Yuri D. Fedoriw, MD, FCAP	Barbara Jean Magnani, PhD, MD, FCAP

Anais Malpica, MD
Ross A. Miller, MD, FCAP
Kisha A. Mitchell-Richards, MD, FCAP
Michael J. Misialek, MD, FCAP
Karen A. Moser, MD, FCAP
Jonathan L. Myles, MD, FCAP
Robert M. Najarian, MD, FCAP
Theresa A. Nester, MD, FCAP
James H. Nichols, PhD, D(ABCC)
Ericka Olgaard, DO, FCAP
Jennifer L. Oliveira, MD, FCAP
Horatiu Olteanu, MD, PhD, FCAP
Reetesh K. Pai, MD, FCAP
Rish K. Pai, MD, PhD
Anil V. Parwani, MD, PhD, FCAP
Lauren N. Pearson, DO, MPH, FCAP
Peter L. Perrotta, MD, FCAP
John D. Pfeifer, MD, PhD, FCAP
Suzanne Z. Powell, MD, FCAP
Joseph T. Rabban, MD, MPH
Michelle D. Reid, MD, MS, FCAP
Nicole D. Riddle, MD, FCAP
Brian P. Rubin, MD, PhD, FCAP
Aysegul A. Sahin, MD
Safia N. Salaria, MD, FCAP
David N. Schaeffer, MD, PhD
Stuart J. Schnitt, MD, FCAP
David Scott, PhD
Antonia R. Sepulveda, MD, PhD, FCAP
Rajal B. Shah, MD, FCAP
Gaurav Sharma, MD, FCAP
Chanjuan Shi, MD, PhD, FCAP
Sandra J. Shin, MD, FCAP
John H. Sinard, MD, PhD, FCAP
Saul Suster, MD, FCAP
Mark S. Synovec, MD, FCAP
Laura J. Tafe, MD, FCAP
Brent T. Tan, MD, PhD, FCAP

Lynne Uhl, MD, FCAP
Vincente Valero, MD
Sonal Varma, MD, FCAP
Paul E. Wakely Jr., MD
Mary K. Washington, MD, PhD, FCAP
Myra L. Wilkerson, MD, FCAP
David S. Wilkinson, MD, PhD, FCAP
Carla S. Wilson, MD, PhD, FCAP
Christina M. Wojewoda, MD, FCAP
Omer Yilmaz, MD, PhD
Amy Zhang, MD
Ming Zhou, MD, PhD
Debra L. Zynger, MD, MS, FCAP