Education

Program subject to change until 12/16/2019.

RSNA® 2019
SEE POSSIBILITIES
— TOGETHER

105TH Scientific Assembly and Annual Meeting
December 1–6 | McCormick Place, Chicago

VW63

Efficacy in Diagnosis with Tomosynthesis in Daily Practice (En Español): Presented by Hologic, Inc.

Sunday, Dec. 1 11:00AM - 11:45AM Room: South Building, Booth 5119

Participants
Beatriz E. Gonzalez, MD, Guadalajara, Mexico (*Presenter*) Nothing to Disclose

Program Information

In this lecture an experienced radiologist provides her clinical perspective on how digital mammography with tomosynthesis has aided the diagnosis of breast lesions, since it was implemented into their practice in 2011. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

VW35

Personalized and Risk-Stratified Screening Using ABUS Technology: Presented by GE Healthcare

Sunday, Dec. 1 11:30AM - 12:00PM Room: South Building, Booth 5135

Participants

Athina Vourtsis, PhD, Athens, Greece (*Presenter*) Nothing to Disclose

Program Information

Women with dense breasts have a higher risk to develop breast cancer, a higher interval cancer rates leading to a delayed diagnosis. ABUS has shown to improve the detection of invasive cancers while further advances of ABUS 2.0 provide an improvement in the scanning technique, software and interpretability. The objectives of this lecture are to understand the implications of breast density and to learn how to integrate ABUS 2.0 into daily practice. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

VW64

Implementing Contrast Enhanced Digital Mammography into your Practice: Presented by Hologic, Inc.

Sunday, Dec. 1 12:15PM - 1:30PM Room: South Building, Booth 5119

Participants
Nila H. Alsheik, MD, Park Ridge, IL (*Presenter*) Nothing to Disclose

Program Information

Listen as an experienced radiologist shares how to implement contrast enhanced digital mammography (CEDM) into your practice, followed by a faculty-guided review of CEDM cases. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

VW36

ABUS: Reducing False Positives: Presented by GE Healthcare

Sunday, Dec. 1 12:30PM - 1:00PM Room: South Building, Booth 5135

Participants

Marc F. Inciardi, MD, Westwood, KS (*Presenter*) Faculty, General Electric Company; Consultant, Qview Medical, Inc

Program Information

Learn strategies to reduce call backs with screening automated breast ultrasound. Dr. Marc Inciardi, MD, from the University of Kansas Medical Center, will review the mindset of screening ultrasound and share techniques to increase reading consistency and confidence. Participate in hands-on review of unknown clinical cases to resolve "fake-outs" vs. real pathology. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

VW37

Automating Breast Ultrasound: A Live Experience: Presented by GE Healthcare

Sunday, Dec. 1 1:30PM - 2:00PM Room: South Building, Booth 5135

Program Information

This session will cover the latest technological advancements in ABUS design and performance. Attendees will learn how improvements in workflow and image quality have the potential to increase cancer detection in women with dense breast tissue. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

RC102

Maximizing Our Learning Potential: How Can We Learn Best?

Sunday, Dec. 1 2:00PM - 3:30PM Room: S105AB

ED

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 1.75

Participants
Aaron P. Kamer, MD, Indianapolis, IN (*Moderator*) Nothing to Disclose

LEARNING OBJECTIVES

1) Use zany, brainy, and cockamamie adult-education theories and techniques to bolster our own learning and the education of our trainees.

Sub-Events

RC102A   Expanding the Circle: Building on What We Know

Participants
Aaron P. Kamer, MD, Indianapolis, IN (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) Describe the value of teaching concepts that relate to a learner's current knowledge. 2) Establish a one-on-one teaching style that provides an optimal level of challenge for the radiology learner. 3) Provide scaffolding at an appropriate level to maximize learning for radiology trainees.

RC102B   Video-based Learning: Effectiveness of a Hybrid Model

Participants
Nelly Tan, MD, Phoenix, AZ (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) Compare hybrid learning to traditional learning models. 2) Review literature on effectiveness of hybrid learning. 3) Case examples of hybrid learning for radiology for medical education.

RC102C   Gamification and Question Asking: Utility of Mistakes in Learning

Participants
Victor F. Sai, MD, Los Angeles, CA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

vsai@mednet.ucla.edu

LEARNING OBJECTIVES

1) Examine learning methods and how to maximize learning efficiency through active learner participation/gaming and learning through mistakes.

RC102D   Micro-habits for Deep Learning: Optimizing Your Daily Practice for Life-long Learning

Participants
Aarti Sekhar, MD, Atlanta, GA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

aarti.sekhar@gmail.com

LEARNING OBJECTIVES

1) Become familiar with the concept of 'micro-habits' and how to embed new healthy habits with already existing habits. 2) Explore radiology micro-habits that propagate continuous learning, such as: mini-case conferences during the workday; constructing meaningful didactics; tumor boards; case logs with pathology follow-up; and virtual 'embedding' to facilitate clinical services and encourage multi-disciplinary exchange. 3) Briefly explore non-radiology micro-habits that can augment learning including sleep hygiene and exercise. 4) Consider how micro-habits can lead to decreased burn-out and sustainable life-long learning.

Printed on: 10/29/20

RC124

Publishing in RSNA Journals: Tips from the Editors

Sunday, Dec. 1 2:00PM - 3:30PM Room: S401CD

ED

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 1.75

Participants

David A. Bluemke, MD,PhD, Bethesda, MD (*Moderator*) Nothing to Disclose
Jeffrey S. Klein, MD, Burlington, VT (*Moderator*) Editor with royalties, Wolters Kluwer nv

For information about this presentation, contact:

jklein@rsna.org

laurabancroftmd@gmail.com

LEARNING OBJECTIVES

1) Identify the appropriate RSNA journal for my scholarly work. 2) Understand the process used by each RSNA journal to evaluate submitted material. 3) List steps I can take to maximize my likelihood of acceptance of my manuscript. 4) Learn how to address revision requests of rejected manuscripts with opportunity to resubmit. 5) Know how to become more involved with the RSNA publications.

ABSTRACT

The RSNA family of peer-reviewed journals now comprises five distinct publications: Radiology, RadioGraphics, and three new online journals: Radiology: Artificial Intelligence, Radiology: Cardiothoracic Imaging, and Radiology: Imaging Cancer. With the debut of three new online RSNA journals in 2019, there is now an expanded opportunity for authors of radiology and related manuscripts to publish their scholarly work with the RSNA. In this presentation the RSNA journal editors will each provide details on the type of material they consider for publication and the processes each uses to evaluate submitted articles and related materials. There will be ample opportunity to ask questions of each editor and learn how to become involved in different aspects of the RSNA journals.

Sub-Events

RC124A   Radiology

Participants
David A. Bluemke, MD,PhD, Bethesda, MD (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

dbluemke@rsna.org

RC124B   Radiology: Artificial Intelligence

Participants
Charles E. Kahn JR, MD, Philadelphia, PA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

ckahn@upenn.edu

LEARNING OBJECTIVES

1) Learn about the goals, organization, and content of RSNA's new Radiology: Artificial Intelligence journal. 2) Describe the manuscript types and their requirements. 3) Understand how to be a successful author or reviewer for the journal.

Active Handout:Charles E. Kahn

http://abstract.rsna.org/uploads/2019/19001856/Active RC124B.pdf

RC124C   Radiology: Cardiothoracic Imaging

Participants
Suhny Abbara, MD, Dallas, TX (*Presenter*) Royalties, Reed Elsevier; Institutional research agreement, Koninklijke Philips NV; Institutional research agreement, Siemens AG

LEARNING OBJECTIVES

To review the composition and structure of the RCTI editorial board.

RC124D   Radiology: Imaging Cancer

Participants
Gary D. Luker, MD, Ann Arbor, MI (*Presenter*) Research Grant, Polyphor, Ltd; Consultant, Polyphor, Ltd

LEARNING OBJECTIVES

1) Describe the scope of content and editorial practices of Radiology: Imaging Cancer.

Active Handout:Gary Dean Luker

http://abstract.rsna.org/uploads/2019/19001858/Active RC124D.pdf

RC124E   RadioGraphics

Participants
Jeffrey S. Klein, MD, Burlington, VT (*Presenter*) Editor with royalties, Wolters Kluwer nv

LEARNING OBJECTIVES

1) List the details of the process by which content for *RadioGraphics* is identified and solicited.

Printed on: 10/29/20

VW65

Increase Confidence and Improve Workflow Efficiencies with High Resolution Imaging Technology: Presented by Hologic, Inc.

Sunday, Dec. 1 2:00PM - 3:15PM Room: South Building, Booth 5119

Participants

Stacy A. Smith-Foley, MD, Fayetteville, AR (*Presenter*) Speakers Bureau, Myriad Genetics, Inc; Scientific Advisory Board, Hologic, Inc

Program Information

Discover how transitioning to Clarity HD® high-resolution imaging with Intelligent 2D® synthesized 2D images and 3DQuorum® may increase reading confidence, improve workflow efficiency while decreasing patient dose. The session includes high-resolution images with 3DQuorum® for attendees to view during the hands-on case-review. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

VW39

Automating Breast Ultrasound: A Live Experience: Presented by GE Healthcare

Sunday, Dec. 1 3:30PM - 4:00PM Room: South Building, Booth 5135

Program Information

This session will cover the latest technological advancements in ABUS design and performance. Attendees will learn how improvements in workflow and image quality have the potential to increase cancer detection in women with dense breast tissue. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

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Printed on: 10/29/20

VW66

Clinical Perspective on 3D™ Guided Breast Biopsy and Real-Time Specimen Imaging: Presented by Hologic, Inc.

Sunday, Dec. 1 3:45PM - 5:00PM Room: South Building, Booth 5119

Participants
Harriet B. Borofsky, MD, San Mateo, CA (*Presenter*) Nothing to Disclose

Program Information

Come and learn from this experienced radiologist's presentation and demonstration focusing on 3D™ guided breast biopsy and real-time specimen imaging. Participate in the hands-on experience utilizing the Affirm® Prone Biopsy and Brevera® Systems. Additional attendees may join for the hands-on demos after the 20 minute lecture concludes. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

VW40

ABUS: A Personalized Screening Solution for Dense Breasts: Presented by GE Healthcare

Sunday, Dec. 1 4:30PM - 5:00PM Room: South Building, Booth 5135

Participants
Simone Schiaffino, MD, Bogliasco, Italy (*Presenter*) Nothing to Disclose

Program Information

Management of patients with dense breasts is still debated; hand-held ultrasound (HHUS), digital breast tomosynthesis, MRI and ABUS (automated breast ultrasound) have been proposed as adjunct screening tools to mammography. ABUS combines HHUS advantages with a standardized and reproducible acquisition, but its adoption as a screening tool could be limited by long reading times. Dr. Schiaffino will discuss the value of the ABUS coronal view, comparing performance and reading times to the complete multiplanar assessment. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

SPDL20

Radiology Stranger Things: A Journey into the Upside Down (Case-based Competition)

Monday, Dec. 2 7:15AM - 8:15AM Room: E451B

`ED` `ER` `MK`

AMA PRA Category 1 Credit ™: 1.00
ARRT Category A+ Credit: 0

Participants

Eric B. England, MD, Cincinnati, OH (*Presenter*) Nothing to Disclose
Carl C. Flink, MD, Cincinnati, OH (*Presenter*) Nothing to Disclose

Special Information

This interactive session will use RSNA Diagnosis Live™. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.

LEARNING OBJECTIVES

1) Review "strange" presentations of common and uncommon Musculoskeletal and Emergency Radiology pathology. 2) Discuss imaging findings associated with a variety of Musculoskeletal Radiology cases. 3) Differentiate Emergent from non-Emergent imaging findings associated with a variety of conditions. 4) Use mobile wireless device (tablet, phone, laptop) to electronically respond to various imaging case challenges; participants will be able to monitor their individual and team performance in real time. 5) Receive a personalized self-assessment report via email that will review the case material presented during the session, along with individual and team performance.

Printed on: 10/29/20

CS22

High Resolution Breast Imaging: Implementation and Work-flow Optimization: Presented by World Class CME, educational grant provided by Hologic, Inc.

Monday, Dec. 2 8:30AM - 9:30AM Room: S102AB

Participants
Linda R. Greer, MD, Phoenix, AZ (*Presenter*) Nothing to Disclose

PROGRAM INFORMATION

This 1 hour symposium will discuss the differences between standard resolution Tomosynthesis and the newest AI-powered high-resolution imaging. The speaker will share their clinical perspective on how implementing the innovative technology improved their work-flow efficiencies including case reviews.

CME

Certificates will be emailed to the email provided through registration or onsite sign in. If we do not have an email on file, attendees can contact our office at office@worldclasscme.com to request a certificate.

RSVP

https://www.worldclasscme.com/conferences/high-resolution-breast-imaging-implementation-and-workflow-optimization/

Printed on: 10/29/20

RC202

Artificial Intelligence and Precision Education: How AI Can Revolutionize Training in Radiology

Monday, Dec. 2 8:30AM - 10:00AM Room: E450A

`AI` `ED`

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 1.75

Participants
Falgun H. Chokshi, MD, Devon, PA (*Moderator*) Advisor, Graticule, Inc; Shareholder, Graticule, Inc

LEARNING OBJECTIVES

1) Understand the basics of machine learning/AI. 2) Identify limitations of machine learning/AI.

Sub-Events

RC202A   AI: Capabilities and Limitations

Participants
Falgun H. Chokshi, MD, Devon, PA (*Presenter*) Advisor, Graticule, Inc; Shareholder, Graticule, Inc

LEARNING OBJECTIVES

1) Understand qualitative basics of machine learning/AI. 2) Identify limitations of machine learning/AI. 3) List potential uses of machine learning/AI in Radiology education.

RC202B   State of Radiology Education: Opportunities for Change

Participants
Soonmee Cha, MD, San Francisco, CA (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) Identify methods of critical assessment of radiology learners. 2) Describe innovative and individualized radiology training curriculum in the era of ever-changing technology and artificial intelligence. 3) Examine tools and resources to educate the educators. 4) Compare methods of effective feedback and reinforcement. 5) Develop strategies to promote lifelong learning in radiology.

RC202C   Multi-stakeholder Panel

Participants
George L. Shih, MD, New York, NY (*Presenter*) Consultant, MD.ai, Inc; Stockholder, MD.ai, Inc;
Janak Joshi, MBA, Newton, MA (*Presenter*) Nothing to Disclose
Mark E. Mullins, MD,PhD, Atlanta, GA (*Presenter*) Nothing to Disclose
Lindsey A. Shea, MD, Indianapolis, IN (*Presenter*) Nothing to Disclose
Khan M. Siddiqui, MD, Hinsdale, IL (*Presenter*) Founder and CEO, IntellixAI, Inc (DBA "HOPPR"); Founder and CMO, higi SH Holdings, Inc; Stockholder, Lunit Inc; Advisory Board, Lunit Inc; Stockholder, Inference Analytics, Inc; Advisory Board, Inference Analytics, Inc; Advisory Board, Envoy AI, Inc; Stockholder, mHealthCoach, Inc; Advisory Board, mHealthCoach, Inc; Stockholder, KalMed, Inc; Advisory Board, KalMed, Inc; Advisory Board Member, Pier88health, Inc

Printed on: 10/29/20

RC224

Requirements for Tumor Biopsies in the Age of Precision Cancer Care

Monday, Dec. 2 8:30AM - 10:00AM Room: S404AB

ED **IR**

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 1.75

FDA Discussions may include off-label uses.

Participants
Sanjay Gupta, MD, Houston, TX (*Moderator*) Nothing to Disclose
Vikas Kundra, MD, PhD, Houston, TX (*Moderator*) Institutional license agreement, Introgen Therapeutics, Inc; Research Grant, General Electric Company

For information about this presentation, contact:

laurabancroftmd@gmail.com

LEARNING OBJECTIVES

1) Specify requirements for lung tumor biopsies from an oncology, pathology and technical perspective. 2) Define clinical requirements for a biopsy to comprehensively diagnose and monitor chest tumors. 3) Identify requirements for tissue collection and processing required for a successful biopsy. 4) Describe technical criteria to perform a successful lung biopsy.

Sub-Events

RC224A   **Clinical Requirements for Diagnosis and Monitoring (Oncologist)**

Participants
Vincent Lam, MD, Baltimore, MD (*Presenter*) Advisory Committee, Takeda Pharmaceutical Company Limited; Speaker, Bristol-Myers Squibb Company; Research support, Guardant Health; Research support, Takeda Pharmaceutical Company Limited; Research support, Adaptimmune; ;

RC224B   **Tissue Processing (Pathologist)**

Participants
Neda Kalhor, MD, Houston, TX (*Presenter*) Consultant, Bristol-Myers Squibb Company; Advisory Committee, Bristol-Myers Squibb Company; Consultant, AbbVie Inc; Advisory Committee, AbbVie Inc; Consultant, Merck & Co, Inc; Advisory Committee, Merck & Co, Inc; Consultant, F. Hoffmann-La Roche Ltd; Advisory Committee, F. Hoffmann-La Roche Ltd; Steering Committee, Merck & Co, Inc

RC224C   **How to Perform Tumor Biopsies**

Participants
Sanjay Gupta, MD, Houston, TX (*Presenter*) Nothing to Disclose

Printed on: 10/29/20

VW67

Transformative Breast US Technology: Clinical Benefits of Specialized Breast Ultrasound Systems: Presented by Hologic, Inc.

Monday, Dec. 2 10:30AM - 11:15AM Room: South Building, Booth 5119

Participants

Stacy A. Smith-Foley, MD, Fayetteville, AR (*Presenter*) Speakers Bureau, Myriad Genetics, Inc; Scientific Advisory Board, Hologic, Inc

Program Information

Listen as an experienced radiologist presents on the clinical benefits and data associated with advanced SuperSonic breast technologies (SWE™, TriVu, Needle PLUS) used across the patient pathway -- Cancer risk assessment, lesion characterization, ultrasound screening, treatment planning and monitoring, and biopsy guidance). The session includes case reviews and hands-on demonstrations. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

VW68

Personalizing Mammography: Managing the High-risk Patient to the Dense Breast Patient: Presented by Hologic, Inc.

Monday, Dec. 2 11:45AM - 12:30PM Room: South Building, Booth 5119

Participants

Stacy A. Smith-Foley, MD, Fayetteville, AR (*Presenter*) Speakers Bureau, Myriad Genetics, Inc; Scientific Advisory Board, Hologic, Inc

Program Information

Listen to an experienced radiologist's clinical perspective on the importance of assessing patients' risk of breast cancer to manage their individual care. Includes a discussion of the most current recommendations for screening for dense breast patients, along with patient pathways for high risk women. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

LL13

Lunch and Learn: Putting AI into Practice: Presented by Fujifilm Medical Systems (RSVP-required)

Monday, Dec. 2 12:30PM - 1:30PM Room: S403A

Participants

Terence A. Matalon, MD, Philadelphia, PA (*Presenter*) Speaker, Koninklijke Philips NV; Consultant, Zebra Medical Vision Ltd; Consultant, Nuance Communications, Inc
Steve Worrell, Miamisburg, OH (*Presenter*) Nothing to Disclose
William Lacy, Stamford, CT (*Presenter*) Nothing to Disclose

Program Information

Hear from practicing radiologists, and those that support them, on how Artificial Intelligence (AI) is currently impacting their workflows, and what considerations they would recommend for future deployments. Led by Fujifilm's Enterprise Imaging experts, this interactive panel will provide unprecedented insights around the real-world use cases of one of today's most anticipated technologies. *RSVP is required; adding this session to your agenda does not secure your seat in this session.*

RSVP

https://rsna.fujimed.com/lunch-learn-2019

Printed on: 10/29/20

RCC23

Want to Learn More About Imaging Informatics? Education, Resources, and Certifications

Monday, Dec. 2 12:30PM - 2:00PM Room: N226

`ED` `IN`

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 1.75

Participants
Christopher J. Roth, MD, Raleigh, NC (*Moderator*) Nothing to Disclose

LEARNING OBJECTIVES

1) Summarize the forces driving physician adoption and leadership in local and national informatics initiatives. 2) Outline freely available educational resources to expand imaging informatics understanding. 3) Describe available imaging informatics courses and fellowships. 4) Detail common certifications available to imaging and non-imaging informatics leaders to demonstrate their knowledge. 5) Know the current imaging informatics 'hot topics.'

Sub-Events

RCC23A   Landscape of Online Resources for Informatics Self-Study

Participants
Marc D. Kohli, MD, San Francisco, CA (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) Identify online sources of content for didactic informatics self-study. 2) Identify online resources for hands-on study of database and programming concepts.

RCC23B   Formal Opportunities and Resources for Imaging Informatics Training

Participants
Nabile M. Safdar, MD, Milton, GA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

nmsafda@emory.edu

LEARNING OBJECTIVES

1) Discuss currently available options for basic and advanced training in imaging informatics available to radiologists at all levels of training and career stage.

RCC23C   Imaging and Nonimaging Informatics Society Certifications: What is Out There and is it Valuable?

Participants
Christopher J. Roth, MD, Raleigh, NC (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) Describe the value of obtaining certifications as an informatics leader. 2) Compare available opportunities for pursuing three common informatics certifications relevant to RSNA members and attendees: American Board of Imaging Informatics Certified Imaging Informatics Professional (ABII CIIP) certification, the American Board of Preventative Medicine Clinical Informatics (ABPM CI) ABMS board certification, and Healthcare Information and Management Systems Society Certified Professional in Health Information & Management System (HIMSS CPHIMS).

RCC23D   Revisioning Informatics Educational Resources

Participants
Douglas Fridsma, MD,PhD, Bethesda, MD (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

fridsma@amia.org

Printed on: 10/29/20

VW43

Automating Breast Ultrasound: A Live Experience: Presented by GE Healthcare

Monday, Dec. 2 12:30PM - 1:00PM Room: South Building, Booth 5135

Participants

Kristina L. Jong, MD, Santa Barbara, CA (*Presenter*) Nothing to Disclose

Program Information

This session will cover the latest technological advancements in ABUS design and performance. Attendees will learn how improvements in workflow and image quality have the potential to increase cancer detection in women with dense breast tissue.
RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

VW69

Open Discussion on the Implementation of Contrast Enhanced Digital Mammography: Presented by Hologic, Inc.

Monday, Dec. 2 1:00PM - 2:00PM Room: South Building, Booth 5119

Participants

Matthew Covington, MD, Salt Lake Cty, UT (*Presenter*) Speaker, Hologic, Inc

Program Information

A question & answer discussion with an experienced, published radiologist. Come join us and have your questions answered concerning Contract Mammography procedures. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

VW44

Introduction to 3D ABUS Screening Workshop: Presented by GE Healthcare

Monday, Dec. 2 1:30PM - 2:30PM Room: South Building, Booth 5135

Participants

Kristina L. Jong, MD, Santa Barbara, CA (*Presenter*) Nothing to Disclose

Program Information

Kristina Jong, MD, Global Peer Educator, leads this introductory hands-on, interactive, Invenia 3D ABUS (automated breast ultrasound) Workshop. Attendees will review clinical cases on the Invenia™ Viewer and learn how 3D ABUS screening helps increase cancer detection in women with dense breast tissue. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

RCA24

RSNA Diagnosis Live Interactive and Mobile Device Integrated Audience Response: Tips, Tricks, and How to Get Started (Hands-on)

Monday, Dec. 2 2:30PM - 4:00PM Room: S401AB

| ED | IN |

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 0

Participants
Christopher G. Roth, MD,MS, Philadelphia, PA (*Moderator*) Nothing to Disclose
Christopher G. Roth, MD,MS, Philadelphia, PA (*Presenter*) Nothing to Disclose
Sandeep P. Deshmukh, MD, Philadelphia, PA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

sandeep.deshmukh@jefferson.edu

LEARNING OBJECTIVES

1) Appreciate the higher receptiveness of interactive content by adult learners compared with traditional didactic techniques. 2) Understand the basic operational features of the Diagnosis Live audience participation authoring tool, including the types of questions offered and how to embed them into PowerPoint presentations. 3) Learn how to manage the Diagnosis Live administrator portal and launch and run interactive games and review analytics regarding student performance.

Printed on: 10/29/20

VW70

Clinical Perspective on 3D™ Guided Breast Biopsy and Real-time Specimen Imaging: Presented by Hologic, Inc.

Monday, Dec. 2 2:30PM - 3:45PM Room: South Building, Booth 5119

Participants
Harriet B. Borofsky, MD, San Mateo, CA (*Presenter*) Nothing to Disclose

Program Information

Come and learn from this experienced radiologist's presentation and demonstration focusing on 3D™ guided breast biopsy and real-time specimen imaging. Participate in the hands-on experience utilizing the Affirm® Prone Biopsy and Brevera® Systems. Additional attendees may join for the hands-on demos after the 20 minute lecture concludes. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

VW45

Automating Breast Ultrasound: A Live Experience: Presented by GE Healthcare

Monday, Dec. 2 3:00PM - 3:30PM Room: South Building, Booth 5135

Participants
Kristina L. Jong, MD, Santa Barbara, CA (*Presenter*) Nothing to Disclose

Program Information

This session will cover the latest technological advancements in ABUS design and performance. Attendees will learn how improvements in workflow and image quality have the potential to increase cancer detection in women with dense breast tissue.
RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.

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Printed on: 10/29/20

VW46

Advanced 3D ABUS Reading Workshop: Interesting Cases: Presented by GE Healthcare

Monday, Dec. 2 4:00PM - 5:00PM Room: South Building, Booth 5135

Participants
Lisa R. Stempel, MD, Chicago, IL (*Presenter*) Nothing to Disclose

Program Information

Dr. Lisa Stempel, RUSH University, will share interesting cases with attendees in this advanced hands-on, interactive Invenia ABUS (automated breast ultrasound) Workshop. Learn more about the unexpected benefits - beyond screening, of implementing ABUS into your clinical practice. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

VW71

Efficacy in Diagnosis with Tomosynthesis in Daily Practice (En Español): Presented by Hologic, Inc.

Monday, Dec. 2 4:15PM - 5:00PM Room: South Building, Booth 5119

Participants
Beatriz E. Gonzalez, MD, Guadalajara, Mexico (*Presenter*) Nothing to Disclose

Program Information

In this lecture an experienced radiologist provides her clinical perspective on how digital mammography with tomosynthesis has aided the diagnosis of breast lesions, since it was implemented into their practice in 2011. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

RC302

TRaD Talks

Tuesday, Dec. 3 8:30AM - 10:00AM Room: E351

ED

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 1.75

Participants
Jonathan O. Swanson, MD, Seattle, WA (*Moderator*) Nothing to Disclose

Sub-Events

RC302A   The Effective Luddite: Engaging Learners without Fancy Technology

Participants
Monica M. Sheth, MD, Manhasset, NY (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

monica.sheth@nyulangone.org

LEARNING OBJECTIVES

1) Explain why incorporating the learner into a teaching activity is a more effective way of teaching. 2) Review techniques to promote a collaborative learning environment.

RC302B   BST Mode: Bite Size Teaching for a Distractible Audience

Participants
Deborah A. Baumgarten, MD, MPH, Decatur, GA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

dbaumga@emory.edu

LEARNING OBJECTIVES

1) What is BST mode and why does it work. 2) How to employ BST mode in your program.

RC302C   Resident Education in Patient-centered Care: Impossible or Imperative?

Participants
Andrew J. Gunn, MD, Vestavia Hills, AL (*Presenter*) Consultant, BTG International Ltd; Speakers Bureau, BTG International Ltd; Research support, Penumbra Inc

LEARNING OBJECTIVES

1) Define patient-centered care in radiology. 2) Describe opportunities and challenges to incorporating patient-centered care into practice. 3) Identify available resources for teaching patient-centered care.

RC302D   Teaching Wellness at the Workstation: Professional Modeling in the Burnout Era

Participants
Jessica G. Fried, MD, Philadelphia, PA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

Jessica.Fried@uphs.upenn.edu

LEARNING OBJECTIVES

1) Identify factors that contribute to burnout in Radiology residents.2) Assess barriers to wellbeing for trainees in your program.3) Develop strategies that can be used on a daily basis in the reading room to promote wellness and resilience in Radiology residents.

RC302E   Picture Radiology: Use of Narrative Paintings in Medical Education

Participants
Kari L. Visscher, MD,FRCPC, Cambridge, ON (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) Define narrative paintings. 2) Discuss relevance of narrative paintings in radiology education. 3) Describe techniques to use narrative paintings in medical education.

RC302F   The Troubled Trainee: When and How to Intervene

Participants
Diana L. Lam, MD, Seattle, WA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

Dllam@uw.edu

LEARNING OBJECTIVES

1) Identify common concerning trainee scenarios. 2) Examine factors which can contribute to trainee performance. 3) Discuss strategies on when and how to intervene.

Printed on: 10/29/20

VW47

Screening Breast Ultrasound: Where Are We Today? Presented by GE Healthcare

Tuesday, Dec. 3 10:30AM - 11:00AM Room: South Building, Booth 5135

Participants

Rachel F. Brem, MD, Washington, DC (*Presenter*) Board of Directors, iCAD, Inc; Board of Directors, Dilon Technologies, Inc; Stock options, iCAD, Inc; Stockholder, Dilon Technologies, Inc; Consultant, Dilon Technologies, Inc; Consultant, ClearCut Medical Ltd; Consultant, Delphinus Medical Technologies, Inc

Program Information

Dr. Rachel Brem, an international thought leader in ultrasound screening and the PI of the seminal SomoInsight Study , will review current breast ultrasound screening literature and clinical trends. She will share how to improve your cancer detection rate today - using ultrasound as a supplemental screening modality for intermediate risk women with dense breasts. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

VW72

Increase Confidence and Improve Workflow Efficiencies with High-Resolution Imaging Technology: Presented by Hologic, Inc.

Tuesday, Dec. 3 10:30AM - 11:45AM Room: South Building, Booth 5119

Participants
Linda R. Greer, MD, Phoenix, AZ (*Presenter*) Nothing to Disclose

Program Information

Discover how transitioning to Clarity HD® high-resolution imaging with Intelligent 2D® synthesized 2D images and 3DQuorum® may increase reading confidence, improve workflow efficiency while decreasing patient dose. The session includes high-resolution images with 3DQuorum® for attendees to view during the hands-on case-review. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

VW73

Clinical Perspective on 3D™ Guided Breast Biopsy and Real-Time Specimen Imaging: Presented by Hologic, Inc.

Tuesday, Dec. 3 12:15PM - 1:30PM Room: South Building, Booth 5119

Participants

Debbie L. Bennett, MD, Saint Louis, MO (*Presenter*) Advisory Board, Devicor Medical Products, Inc; Speaker, Hologic, Inc

Program Information

Come and learn from this experienced radiologist's presentation and demonstration focusing on 3D™ guided breast biopsy and real-time specimen imaging. Participate in the hands-on experience utilizing the Affirm® Prone Biopsy and Brevera® Systems. Additional attendees may join for the hands-on demos after the 20 minute lecture concludes. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

VW49

Introduction to 3D ABUS Screening Workshop: Presented by GE Healthcare

Tuesday, Dec. 3 12:30PM - 1:30PM Room: South Building, Booth 5135

Participants
Kristina L. Jong, MD, Santa Barbara, CA (*Presenter*) Nothing to Disclose

Program Information

Kristina Jong, MD, Global Peer Educator, leads this introductory hands-on, interactive, Invenia 3D ABUS (automated breast ultrasound) Workshop. Attendees will review clinical cases on the Invenia™ Viewer and learn how 3D ABUS screening helps increase cancer detection in women with dense breast tissue. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

MSRP31

RSNA Resident and Fellow Symposium 2019 (Interactive Session)

Tuesday, Dec. 3 1:00PM - 4:00PM Room: E451A

ED **PR**

AMA PRA Category 1 Credits ™: 3.00
ARRT Category A+ Credit: 0

Sub-Events

MSRP31A   Welcome: Membership Benefits for Trainees

Tuesday, Dec. 3 1:00PM - 1:10PM Room: E451A

Participants
Courtney P. Raybon, MD, Nashville, TN (*Presenter*) Nothing to Disclose
Casey Reed, MD, Cincinnati, OH (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) Inform trainees of the opportunities available to them through RSNA.

ABSTRACT

Inform trainees of the opportunities available to them through RSNA.

MSRP31B   Job Market Update: Changing Practice Patterns

Tuesday, Dec. 3 1:15PM - 1:35PM Room: E451A

Participants
Eric R. Smith, MD, Milwaukee, WI (*Presenter*) Nothing to Disclose
Darcy J. Wolfman, MD, Washington, DC (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) To present an overview of the 2019 Human Resources Commission Report. 2) An approach to help land a job after residency / fellowship. 3) Private practice positions - questions to consider. 4) Academic positions - questions to consider.

ABSTRACT

Landing a job after residency or fellowship can be challenging. The 2019 ACR Human Resources Commission Report will be reviewed to gain an overview of the current job market. A systematic approach to help residents and fellows land a job will be described. Considerations for both private practice and academic positions will be presented.

MSRP31C   Making Major Career Decisions

Tuesday, Dec. 3 1:40PM - 2:00PM Room: E451A

Participants
Daryl T. Goldman, MD , New York , NY (*Presenter*) Nothing to Disclose
Matthew S. Davenport, MD, Ann Arbor, MI (*Presenter*) Royalties, Wolters Kluwer nv

LEARNING OBJECTIVES

1) Learn strategies for making major career decisions. 2) Understand that differentiation brings feelings of loss that require pre-emptive attention. 3) Recognize that making sound career decisions requires self reflection.

MSRP31D   Transition to Early Career

Tuesday, Dec. 3 2:05PM - 2:25PM Room: E451A

Participants
Mariam A. Malik, MD, Washington, DC (*Presenter*) Nothing to Disclose
Ann L. Brown, MD, Cincinnati, OH (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

ann.brown2@uc.edu

LEARNING OBJECTIVES

1) Understand the unique challenges facing new radiologists as they begin practicing independently. 2) Identify opportunities for career development and practice improvement. 3) Realize the importance of establishing and maintaining good working relationships with colleagues, staff, and referring providers.

ABSTRACT

We will focus on tips and advice to successfully navigate the transition from trainee to junior attending in radiology.

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MSRP31E   **Personal Finance Essentials**

Tuesday, Dec. 3 2:30PM - 2:50PM Room: E451A

Participants
Tanner K. Jugler, MD, Phoenix, AZ (*Presenter*) Nothing to Disclose
Kurt A. Schoppe, MD, Grapevine, TX (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) Understand the various practice models, and analyze these based on changing physician demographics. 2) Identify evolving trends in radiology practices and examine the impact of consolidation and private equity on career options. 3) Establish the importance of self-care and work-life balance. 4) Define physician burnout and introduce the concept of career longevity. 5) Develop effective negotiation skills.

MSRP31F   **Q&A**

Tuesday, Dec. 3 2:50PM - 3:05PM Room: E451A

Participants
Casey Reed, MD, Cincinnati, OH (*Moderator*) Nothing to Disclose

MSRP31G   **Career Practice Panel**

Tuesday, Dec. 3 3:05PM - 3:50PM Room: E451A

Participants
David H. Ballard, MD, Ballwin, MO (*Moderator*) Nothing to Disclose
Alexander M. Norbash, MD, San Diego, CA (*Presenter*) Scientific Advisor, Penumbra, Inc; Scientific Advisor, IBM Corporation; Scientific Advisor, General Electric Company; Stockholder, Boston Imaging Core Lab, LLC; ; ; ; ;
Amy K. Patel, MD, Liberty, MO (*Presenter*) Nothing to Disclose
Laura W. Bancroft, MD, Venice, FL (*Presenter*) Nothing to Disclose
Eric J. Ledermann, MBA,DO, Tampa, FL (*Presenter*) Employee, Envision Healthcare

For information about this presentation, contact:

laurabancroftmd@gmail.com

amykpatel64112@gmail.com

LEARNING OBJECTIVES

1) Discuss advantages and disadvantages of different career pathways within radiology. 2) Specifically address the challenges and benefits associated with transitioning from one practice style to another. 3) Address questions and concerns of trainees pertaining to practice type and career transitions during question and answer session.

ABSTRACT

Academic and private practices hold similarities and differences, even though there are wide spectrums of practices within each and significant cultural differences from practice to practice. Individuals who have spent considerable portions of their careers in one or the other can characterize considerations that may assist trainees in finding the better option for themselves.

MSRP31H   **Closing Remarks**

Tuesday, Dec. 3 3:50PM - 4:00PM Room: E451A

CS36

Efficiency & Risk Management in CT: Smart & Innovative Solutions: Presented by Bracco Diagnostics, Inc.

Tuesday, Dec. 3 2:00PM - 3:30PM Room: S105D

Participants

Dushyant Sahani, MD, Boston, MA (*Presenter*) Research support, General Electric Company Medical Advisory Board, Allena Pharmaceuticals, Inc

Daniele Marin, MD, Durham, NC (*Presenter*) Research support, General Electric Company

Stephanie Allen, MBA, Albemarle, NC (*Presenter*) Nothing to Disclose

PROGRAM INFORMATION

In clinical practice, a busy CT suite can experience a bottle-neck of patient throughput that can impact wait times and patient satisfaction. As modern imaging departments continue to evolve with the installation of the latest devices, software, and tools to provide best in class care for their patients in the most efficient and productive manner; there is now a necessity to share best practices among healthcare providers. This will be a live CE and CRA accredited symposium. This symposium features a panel of three experts in their respective areas of medical imaging who will share their experience of how they are increasing workflow efficiency while managing risk in the CT suite. The discussion will include the compliant use of Imaging Bulk Package with smart contrast delivery systems, while capturing and analyzing patient-enriched data. Educational Credits Provided ARRT Category A CE Credit - AHRA CRA Credit.

CME

This program does not offer CME; this program offers CE and CRA credits. Attendees will be provided with instructions at the end of the symposium on how to claim their credits.

RSVP Link

https://www.appliedradiology.org/RSNA3/default.aspx

Sub-Events

CS36A   Smart CT Injectors: The Clinical Benefits of Saline & Contrast Utilization

Participants
Dushyant Sahani, MD, Boston, MA (*Presenter*) Research support, General Electric Company Medical Advisory Board, Allena Pharmaceuticals, Inc

CS36B   Compliant Utilization of Imaging Bulk Package in CT

Participants
Stephanie Allen, MBA, Albemarle, NC (*Presenter*) Nothing to Disclose

CS36C   Benefits of Smart CT Injectors: Workflow Improvements & Protocol Management

Participants
Daniele Marin, MD, Durham, NC (*Presenter*) Research support, General Electric Company

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105TH Scientific Assembly
and Annual Meeting
December 1–6 | McCormick Place, Chicago

RSNA® 2019
SEE POSSIBILITIES
— TOGETHER

VW50

Launching a Progressive and Prosperous ABUS Program: Presented by GE Healthcare

Tuesday, Dec. 3 2:00PM - 2:30PM Room: South Building, Booth 5135

Participants

Lisa R. Stempel, MD, Chicago, IL (*Presenter*) Nothing to Disclose

Program Information

Learn first-hand the pearls and pitfalls of how to successfully implement Invenia ABUS into a multi-disciplinary, multi-center practice and how to improve the clinical use of ultrasound in your breast imaging practice. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

VW74

A Revolution in Localization: Presented by Hologic, Inc.

Tuesday, Dec. 3 2:00PM - 3:15PM Room: South Building, Booth 5119

Participants

Mehran Habibi, Baltimore, MD (*Presenter*) Nothing to Disclose
Lisa A. Mullen, MD, Cockeysville, MD (*Presenter*) Nothing to Disclose

Program Information

Learn from both an experienced radiologist and surgeon as they provide an overview of traditional and new localization options for patients undergoing Breast Conserving Surgery (lumpectomy) or excisional biopsy. Their knowledgeable discussion followed by hands-on experience for attendees will review the benefits of various wire and non-wire localization technologies focusing on ways to improve workflow. The hands-on portion includes phantom-placement techniques, demonstrating multiple, innovative technologies including LOCalizer™ and Viera™. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

Printed on: 10/29/20

RC402

Developing a Flipped Classroom Workshop: From Soup to Nuts (Interactive Session)

Tuesday, Dec. 3 3:00PM - 6:00PM Room: S504AB

ED

AMA PRA Category 1 Credits ™: 3.00
ARRT Category A+ Credits: 3.50

For information about this presentation, contact:

petra.lewis@hitchcock.org

LEARNING OBJECTIVES

1) Compare and contrast traditional and flipped classroom teaching. 2) Explain potential challenges involved in developing and deploying flipped teaching sessions. 3) Identify learning objectives that are more suitable for prelearning material. 4) Create an example prelearning video using 'Explain Everything'. 5) Create active learning exercises for specified learning objectives. 6) Describe how active annotation with apps such as 'Doceri' can aid audience interactivity. 7) Develop example questions using Diagnosis Live.

Sub-Events

RC402A   Flipping the Classroom - Introduction

Participants
Petra J. Lewis, MBBS, Lebanon, NH (*Moderator*) Committee member, CairnSurgical

For information about this presentation, contact:

petra.lewis@hitchcock.org

LEARNING OBJECTIVES

1) Compare and contrast flipped classroom with traditional teaching methods. 2) List 3 advantages of using flipped classroom teaching. 3) Describe the general structure of a flipped classroom session. 4) List 4 types of prelearning material that can be provided to learners.

RC402B   Active Learning Exercises

Participants
Petra J. Lewis, MBBS, Lebanon, NH (*Presenter*) Committee member, CairnSurgical

For information about this presentation, contact:

petra.lewis@hitchcock.org

LEARNING OBJECTIVES

1) Differentiate between active and passive learning techniques. 2) Describe 5 different active learning methods. 3) Create an active learning curriculum for a flipped classroom session.

RC402C   Recording Lectures

Participants
Jonathan O. Swanson, MD, Seattle, WA (*Moderator*) Nothing to Disclose
Jessica G. Fried, MD, Philadelphia, PA (*Presenter*) Nothing to Disclose
Eric M. Goodman, MD, Mineola, NY (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

egoodman2@northwell.edu

RC402D   Using an iPad to Teach Wirelessly

Participants
Harprit S. Bedi, MD, Wellesley, MA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

Harprit.Bedi@bmc.org

LEARNING OBJECTIVES

1) Discuss the benefits of using an iPad to create a more interactive teaching session. 2) Demonstrate the use of teaching wirelessly with an iPad.

Participants
Nancy J. McNulty, MD, Lebanon, NH (*Presenter*) Book contract, Oxford University Press

RC402F **Using RSNA Diagnosis Live™**

Participants
Aaron P. Kamer, MD, Indianapolis, IN (*Presenter*) Nothing to Disclose
Sheryl G. Jordan, MD, Chapel Hill, NC (*Presenter*) Nothing to Disclose
Tara M. Catanzano, MD, Springfield, MA (*Presenter*) Nothing to Disclose
Martha B. Mainiero, MD, Providence, RI (*Presenter*) Nothing to Disclose
Monica M. Sheth, MD, Manhasset, NY (*Presenter*) Nothing to Disclose
Priscilla J. Slanetz, MD,MPH, Boston, MA (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) Describe the methods of audience engagement that are possible using RSNA Diagnosis Live™. 2) Engage the audience in a radiology teaching conference using one or more of the methods available in RSNA Diagnosis Live™ software.

Printed on: 10/29/20

SSJ12

Health Service, Policy and Research (Education and Academics)

Tuesday, Dec. 3 3:00PM - 4:00PM Room: E260

| ED | HP |

AMA PRA Category 1 Credit ™: 1.00
ARRT Category A+ Credit: 1.00

Participants

Carol P. Geer, MD, Winston Salem, NC (*Moderator*) Nothing to Disclose
Marc H. Willis, DO, MMM, Palo Alto, CA (*Moderator*) Investor, Resonea, Inc

Sub-Events

SSJ12-01 National Survey to Assess Gender Differences Among Radiology Residency Applicants Regarding Factors Impacting Program Selection

Tuesday, Dec. 3 3:00PM - 3:10PM Room: E260

Participants
Laura B. Madsen, MD,MSc, Mineola, NY (*Presenter*) Nothing to Disclose
Sofya Kalantarova, MD, Mineola, NY (*Abstract Co-Author*) Nothing to Disclose
Ragni Jindal, MD , Mineola, NY (*Abstract Co-Author*) Nothing to Disclose
Meredith Akerman, Mineola, NY (*Abstract Co-Author*) Nothing to Disclose
Nancy R. Fefferman, MD, New York, NY (*Abstract Co-Author*) Nothing to Disclose
Jason C. Hoffmann, MD, Garden City, NY (*Abstract Co-Author*) Speakers Bureau, Merit Medical Systems, Inc; ;

For information about this presentation, contact:

Jason.Hoffmann@nyulangone.org

PURPOSE

To investigate which program factors were considered most important by radiology residency applicants when ranking programs and to assess whether there was any significant difference by gender.

METHOD AND MATERIALS

Following IRB exemption, a web-based survey was distributed electronically to diagnostic radiology (DR) and interventional radiology (IR) residency programs in the US and Canada via the Association of Program Coordinators in Radiology (APCR) mailing list. The residents were asked to evaluate the importance of 30 factors during their evaluation of programs when applying for residency using a 5-point Likert scale (1=very negative/not important, 5=very positive/extremely important). Demographic information was also collected. The Mann-Whitney test was used to compare males and females for each factor on the survey and considered statistically significant at the $p<0.05$ level.

RESULTS

370 residents (95.4% DR and 4.6% IR) and 1 DR fellow (0.3%) completed the survey. Overall, the most important factors to respondents during residency program selection were program culture (4.42), geographic location (4.17), fellowship placement of graduates (4.14), and imaging and/or procedure volume (3.98). Of the respondents, 269 were male (72.5%) and 101 were female (27.2%). There was a significant difference between male and female respondents in the importance given to program culture ($p=0.002$), composition of current residents (marital status, age, race, gender, and children status) ($p=0.007$), percentage of current female residents ($p<0.0001$), program size ($p=0.047$), call schedule ($p=0.025$) and female faculty ($p<0.0001$), which female respondents ranked more highly and considered to be extremely important, very important or somewhat important.

CONCLUSION

Applicants consider many factors during residency program selection. Overall program culture, geographic location, fellowship placement and imaging and/or procedural volume were most important to applicants. There were significant gender differences in how applicants weighted the importance of several factors during residency program selection.

CLINICAL RELEVANCE/APPLICATION

Understanding factors considered by applicants during the residency program application process can help residency programs recruit applicants.

SSJ12-02 Are Women Disadvantaged in Academic Radiology?

Tuesday, Dec. 3 3:10PM - 3:20PM Room: E260

Participants
Rozita Jalilianhasanpour, MD, Baltimore, MD (*Presenter*) Nothing to Disclose
Huan Chen, Baltimore, MD (*Abstract Co-Author*) Nothing to Disclose
Pamela T. Johnson, MD, Baltimore, MD (*Abstract Co-Author*) Nothing to Disclose
Elham Beheshtian, MD, Baltimore, MD (*Abstract Co-Author*) Nothing to Disclose
Sadaf Sahraian, Baltimore, MD (*Abstract Co-Author*) Nothing to Disclose

David M. Yousem, MD, Owings Mills, MD (*Abstract Co-Author*) Royalties, Reed Elsevier; Employee, Medicolegal Consultation; Royalties, Analytical Informatics, Inc; Speaker, MRIOnline; ; ;

For information about this presentation, contact:

rjalili1@jhmi.edu

PURPOSE

There has been a persistent gender bias in Radiology preventing women from assuming leadership positions. This could lead to or result from women not ascending faculty rank. We sought to determine if 1) women are appropriately represented in the senior author positions in radiology journals compared with their first authored contributions 2) women's contribution to the radiology literature is proportional to their percentage growth in academia 3) whether there are gender differences in senior academic rank after accounting for factors known to influence academic advancement.

METHOD AND MATERIALS

We assessed the gender of 3,702 first and last authors of manuscripts published in 9 high-impact American radiology journals between 2002-2017. For the same years, we looked at the gender composition of academic faculty and ranks based on AAMC data. We calculated the proportion of faculty members with respect to gender and academic ranks over time. We also plotted the productivity rates for each gender over 16 years .Additionally the gender ratio of junior and senior faculty positions was plotted over time to see if the gender ratio of junior faculty who entered AAMC rosters 16 years earlier would be balanced to the gender ratio of senior faculy 16 years later.

RESULTS

Women's proportion as the first author grew from 26.9% to 37.4%, and from 15.7% to 23.9% as the senior author. Senior author contribution of women remained significantly lower than first authorship with no sign of narrowing the gap. Women were underrepresented in each faculty rank over 16 years. For a given year, the percentage of women associate professor and full-professor were 6.80% and 13.97% less than the mean percentage of female assistant professor. Mean manuscript productivity rate of women as junior faculty for 16 years was nearly equivalent compared to their male counterparts. The ratio of women in senior academic rank did not change with an increase in women authorship.

CONCLUSION

Although women have made inroads in their contribution to radiology literature over the years, this has not translated to improvement in the ratio of senior authorship and faculty positions versus men. Despite increased involvement of women in research over time, the remain disproportionately at junior faculty positions.

CLINICAL RELEVANCE/APPLICATION

Gender disparity has persisted over the years and led to the under-representation of women in senior authorship and higher academic ranks.

SSJ12-03   Analysis of Kinematic Differences in Hand Motion between Novice and Experienced Operators in Interventional Radiology

Tuesday, Dec. 3 3:20PM - 3:30PM Room: E260

Participants
Fady El-Gabalawy, MD, Boston, MA (*Presenter*) Nothing to Disclose
Jeffrey Weinstein, MD, Wellesley, MA (*Abstract Co-Author*) Nothing to Disclose
Ammar Sarwar, MD, Boston, MA (*Abstract Co-Author*) Stockholder, Agile Devices, Inc; Scientific Advisory Board, Agile Devices, Inc; Grant Support, Sirtex Medical Inc
Sarah S. Debacker, MD, Kansas City, KS (*Abstract Co-Author*) Nothing to Disclose
Salomao Faintuch, MD, Boston, MA (*Abstract Co-Author*) Nothing to Disclose
Felipe B. Collares, MD, Newton, MA (*Abstract Co-Author*) Nothing to Disclose
Daniel Burritt, MD, Worcester, MA (*Abstract Co-Author*) Nothing to Disclose
Francisco E. Valles, MD, Bridgeport, CT (*Abstract Co-Author*) Nothing to Disclose
Matthew R. Palmer, PhD, Boston, MA (*Abstract Co-Author*) Nothing to Disclose
Muneeb Ahmed, MD, Boston, MA (*Abstract Co-Author*) Research Grant, General Electric Company Stockholder, Agile Devices, Inc Scientific Advisory Board, Agile Devices, Inc

PURPOSE

Kinematic hand motion analysis has been used to quantify refinements in learned tasks in surgery. Here, we compare the hand motion of attending physicians to trainees completing a basic simulated interventional radiology procedural task using electromagnetic sensor technology to determine if kinematic hand motion analysis can detect differences between experienced operators and trainees.

METHOD AND MATERIALS

5 attendings and 3 trainees (2 fellows, one resident) performed a simulated task of threading a wire through a sheath and removing the inner dilator over a wire while the motion of their dominant hand was recorded using electromagnetic motion sensor technology. All participants were right-handed. The task was repeated for 10 trials. The total distance the participant's hands traveled during the task (path length) and total time to complete the task were compared between attendings and trainees individually and as a group. The first trial path length and the last trial path length were compared to detect improvement with task repetition. Statistical analysis using paired t-tests and two sample t-tests were performed.

RESULTS

Total path length to complete the task for the attendings was shorter than that for the trainees (69±12 cm vs. 107±22 cm, p<0.05). The attendings also took a shorter time to complete the task (71±18s vs. 82±16s, p<0.01). The path length for all participants (attendings and trainees) decreased between the first attempt at the task and the last attempt (94±20 cm vs. 78±22 cm, p<0.05).

CONCLUSION

Electromagnetic motion tracking technology was able to discern kinematic differences in hand motion between attending physicians and trainees in a simulated interventional radiology task. Kinematic analysis also detected improvements with task repetition. Further exploration of this technology as a method to objectively measure performance of procedures in radiology is warranted.

CLINICAL RELEVANCE/APPLICATION

Kinematic differences between attendings and trainees represent an objective measure of performance. This element may be used to determine when a trainee can be deemed competent for a given procedure.

SSJ12-04   Research Involvement and Barriers in Radiology Residency Programs: Perceptions, Attitudes, Practice, and Impact Worldwide

Tuesday, Dec. 3 3:30PM - 3:40PM Room: E260

Participants
Federica Vernuccio, MD, Palermo, Italy (*Presenter*) Nothing to Disclose
Eduardo Estades Romero Jr, MD, Newark, DE (*Abstract Co-Author*) Nothing to Disclose
JoAnna Marie D. Choa, MD, Manila , Philippines (*Abstract Co-Author*) Nothing to Disclose
Jae Seok Bae, MD, Seoul, Korea, Republic Of (*Abstract Co-Author*) Nothing to Disclose
Sevcan Turk, MD, Izmir, Turkey (*Abstract Co-Author*) Nothing to Disclose
Maria M. Serra, MD, Buenos Aires, Argentina (*Abstract Co-Author*) Medical Advisor, EntelaiPic
Susan C. Shelmerdine, MBBS, FRCR, Cheltenham, United Kingdom (*Abstract Co-Author*) Nothing to Disclose
Ashlesha S. Udare, MBBS, MD, Mumbai, India (*Abstract Co-Author*) Nothing to Disclose
Bayarbaatar Bold, MD, Bangkok, Thailand (*Abstract Co-Author*) Nothing to Disclose
Dina F. Haroun, MBBCh, Giza, Egypt (*Abstract Co-Author*) Nothing to Disclose
Estefania Terrazas Torres, MD, Chihuahua, Mexico (*Abstract Co-Author*) Nothing to Disclose
Monika Arzanauskaite, MMedSc, Liverpool, United Kingdom (*Abstract Co-Author*) Nothing to Disclose

For information about this presentation, contact:

federicavernuccio@gmail.com

PURPOSE

To assess the opportunities and interest in academia amongst radiology trainees worldwide, and to identify barriers to research activities.

METHOD AND MATERIALS

A 35-question online survey was distributed to radiology trainees internationally using social media and support via email newsletters from 13 radiological societies. Feedback regarding length and setup of radiology residency programs, participation in research and barriers to academic activities were investigated. Fisher and Chi-squared tests were used to differentiate findings. A p<0.05 indicated a statistically significant difference.

RESULTS

In total, 749 participants (348 women, 392 men, 9 undisclosed) completed the survey. Research involvement amongst radiology trainees varied significantly, ranging from 36% (21/59) in South America to 79% (46/58) in North America. Research productivity (i.e. poster or scientific presentations and publications) varied significantly, with trainees involved in research from North America mostly publishing original articles (27/58, 27%), European trainees mostly publishing review articles (94/437, 22%) and South American trainees mostly publishing case reports (28/59, 47%). There was a lack of formal allocated time for research in 60% (451/749) of participants. When compared to participants with formally allocated time, there was a lower number of published original articles (31%, 138/451 vs. 42%, 126/298, p<0.001), review articles (13%, 58/451 vs. 20%, 60/298, p=0.007), and first author publications (31%, 140/451 vs. 40%, 120/298, p=0.009). Barriers to research included lack of allocated time (58%, 434/749) and mentorship (49%, 366/749). Some participants (18% (136/749)) declared a lack of personal interest as a barrier. Lack of funding was declared a major barrier by 50% (19/38) of participants from African countries.

CONCLUSION

Radiology research involvement amongst trainees varies worldwide, with many not formally involved in academia. Residency programs seeking to enhance research output should focus on providing protected time, training and mentorship.

CLINICAL RELEVANCE/APPLICATION

High quality research drives technological advances. Lack of involvement in academia and mentorship during residency may hamper the ability of radiologists to contribute to discoveries and improvements for patient care.

SSJ12-06   Breaking the Stereotype: Interventions Aimed at Changing Medical Student Misperceptions of Radiology and Increasing the Female Match Rate

Tuesday, Dec. 3 3:50PM - 4:00PM Room: E260

Awards
Trainee Research Prize - Medical Student

Participants
Victoria Podsiadlo, Worcester, MA (*Presenter*) Nothing to Disclose
Carolynn M. DeBenedectis, MD, Natick , MA (*Abstract Co-Author*) Nothing to Disclose

For information about this presentation, contact:

vjpodsiadlo@gmail.com

PURPOSE

The purpose of this project is to determine the effectiveness of the intervention implemented to reduce displayed bias

The purpose of this project is to determine the effectiveness of the interventions implemented at a single medical school in disputing the common misperceptions of radiology and increase the number of female medical students pursuing radiology.

METHOD AND MATERIALS

1st (MSI) and 4th year medical students (MSIV) voluntarily participated in an online survey to assess whether the interventions implemented at one medical school corrected stereotypes about radiology, and to see if they increased the number of women going into radiology. The interventions included adding radiology into the preclinical curriculum, 3rd year electives in radiology, and a 'Women in Radiology Panel'. MSIs gave free text answers about their attitudes toward radiology, which were categorized into the '6 most common misperceptions': no patient contact, anti-social, dying field, spend all day in a dark room, good lifestyle, and other. MSIVs were asked why they did or did not choose radiology, and the answers were placed into the same 6 categories. We also looked at the impact the Women in Radiology Panel (WIRP) had on perceptions and whether attendees were more likely to consider radiology. We then looked to see if there has been an increase in the number of female students choosing radiology since implementation.

RESULTS

MSIV (N=64) response rates containing the '6 most common misperceptions' were decreased compared to MSIs (N=183), especially dark room (p=0.01), dying field (p=0.54), and antisocial (p=<0.0001). After the WIRP, attendees (N=18) rated their perception of patient contact (p=0.001) and work-life balance (p=0.33) higher. Attendees were also more likely to consider radiology (p=0.003). If exposed to 4 years of interventions there was a significant increase in the number of female students matching in radiology (p = 0.01).

CONCLUSION

Female students exposed to 4 years of interventions showed a significant increase in radiology match rate. The interventions also decreased the misperceptions about radiology. The WIRP was the most effective at changing misperceptions and resulted in a higher likelihood of considering radiology.

CLINICAL RELEVANCE/APPLICATION

Exposure to radiology early in medical school and the prescence of female radiologist role models can change misperceptions and increase the number of women choosing radiology.

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VW51

Automating Breast Ultrasound: A Live Experience: Presented by GE Healthcare

Tuesday, Dec. 3 3:00PM - 3:30PM Room: South Building, Booth 5135

Participants
Kristina L. Jong, MD, Santa Barbara, CA (*Presenter*) Nothing to Disclose

Program Information

This session will cover the latest technological advancements in ABUS design and performance. Attendees will learn how improvements in workflow and image quality have the potential to increase cancer detection in women with dense breast tissue.
RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

VW52

Advanced ABUS Screening Workshop: The 3D Coronal View: Presented by GE Healthcare

Tuesday, Dec. 3 3:30PM - 4:30PM Room: South Building, Booth 5135

Participants
Georgia Giakoumis-Spear, MD, Evanston, IL (*Presenter*) Nothing to Disclose

Program Information
This advanced hands-on, interactive, Invenia ABUS Workshop will show attendees how to efficiently navigate the 3D coronal plane to highlight potential abnormalities and streamline ultrasound screening workflow. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

VW75

Implementing Contrast Enhanced Digital Mammography into your Practice: Presented by Hologic, Inc.

Tuesday, Dec. 3 3:45PM - 5:00PM Room: South Building, Booth 5119

Participants
Nila H. Alsheik, MD, Park Ridge, IL (*Presenter*) Nothing to Disclose

Program Information

Listen as an experienced radiologist shares how to implement contrast enhanced digital mammography (CEDM) into your practice, followed by a faculty-guided review of CEDM cases. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

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VW53

Meet the Expert: Experiences with ABUS: Presented by GE Healthcare

Tuesday, Dec. 3 4:30PM - 5:00PM Room: South Building, Booth 5135

Participants

Marc F. Inciardi, MD, Westwood, KS (*Presenter*) Faculty, General Electric Company; Consultant, Qview Medical, Inc
Susan G. Roux, MD, Monterey, CA (*Presenter*) Nothing to Disclose

Program Information

Discover how ABUS can help you personalize breast imaging and become more proactive about breast care. Please join members of the GE Healthcare ABUS Team and expert ABUS Users for an interactive session. This will be a great opportunity to learn more about automated breast ultrasound and speak with other clinicians about their experiences using ABUS. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

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RC502

ABR and RRC Updates

Wednesday, Dec. 4 8:30AM - 10:00AM Room: N229

ED

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 0

Sub-Events

RC502A   ABR Update

Participants
Valerie P. Jackson, MD, Tucson, AZ (*Moderator*) Nothing to Disclose
Brent J. Wagner, MD, West Reading, PA (*Presenter*) Nothing to Disclose
Vincent P. Mathews, MD, Hartland, WI (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) Describe the value of ABR board certification. 2) Review the expectations of the public regarding board certification. 3) Describe ABR's OLA program for diagnostic radiology. 4) Discuss advantages of longitudinal assessment over traditional MOC examinations.

RC502B   RRC Update

Participants
Janet E. Bailey, MD, Ann Arbor, MI (*Presenter*) Nothing to Disclose
Felicia Davis, Chicago, IL (*Presenter*) Nothing to Disclose

LEARNING OBJECTIVES

1) Identify opportunities for improved understanding of ACGME Radiology RRC processes, procedures, and policies. 2) Describe updates to the Common Program Requirements. 3) Discuss the ACGME Milestones 2.0 with focus on key features and changes.

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RCC41

Technologies for Creating Educational Content and Teaching Files

Wednesday, Dec. 4 8:30AM - 10:00AM Room: S403A

ED | IN

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: .50

Participants

Harprit S. Bedi, MD, Wellesley, MA (*Moderator*) Nothing to Disclose

Sub-Events

RCC41A   Podcasting and Screencasting for Teaching

Participants
Mahesh M. Thapa, MD, Seattle, WA (*Presenter*) Nothing to Disclose

RCC41B   ePublishing

Participants
Michael L. Richardson, MD, Seattle, WA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

mrich@uw.edu

LEARNING OBJECTIVES

1) Be familiar with pros and cons of ePublishing in general. 2) Be aware of several free ePublishing programs and where to find them. 3) Be aware of the ramifications of digital rights management and book pricing. 4) Know how to convert an eBook into a physical paper book as needed.

RCC41C   Incorporating the iPad in Resident Education: Using Mobile Technology to Improve the Way We Teach

Participants
Harprit S. Bedi, MD, Wellesley, MA (*Presenter*) Nothing to Disclose

Printed on: 10/29/20

CS41

SOLVE: Driving Innovation on AI at the Point of Care from Edge to Cloud with Key Industry Partners: Presented by Intel Corporation

Wednesday, Dec. 4 9:00AM - 10:30AM Room: S101AB

Participants

Matthew DiDonato, Wauwatosa, WI (*Presenter*) Nothing to Disclose
Puneet Sharma, Princeton, NJ (*Presenter*) Research Director, Siemens AG
Wendell A. Gibby, MD, Provo, UT (*Presenter*) CEO, Novarad Corporation
Sandeep Akkaraju, Wellesley, MA (*Presenter*) Nothing to Disclose
Fabien Beckers, San Francisco, CA (*Presenter*) Founder and CEO, Arterys Inc
Eric King, Santa Clara, CA (*Presenter*) Nothing to Disclose
Alexander M. Flores, Santa Clara, CA (*Presenter*) Nothing to Disclose

PROGRAM INFORMATION

From enabling clinicians to deliver more collaborative, distributed, and personalized diagnosis and treatment, to providing entire health systems better capabilities for capturing, analyzing, and synthesizing critical health data, AI is revolutionizing the way that care is being delivered. Intel enables it all, from edge to cloud. Leading health innovators are creating new data-driven solutions that dramatically re-shape the boundaries and precision of health and wellness everywhere, enabled by Intel's portfolio of advanced technology and artificial intelligence. This session will focus on how partners and customers are implementing innovation and transformation in the field of medical imaging and provide a broader view on enabling Intel® AI portfolio for edge to cloud inference optimization. - *Matthew DiDonato, Director, Product Management - Platform for GE Healthcare AI; - Puneet Sharma, Senior AI Director, Siemens Healthineers; - Wendell Gibby, MD, Director BlueRock Medical & Adjunct Radiology Professor UCSD; - Sandeep Akkaraju, Co-Founder and CEO, Exo Imaging; - Fabien Beckers, Co-Founder & CEO, Arterys; - Alex Flores, Director Medical Imaging, Health & Life Sciences, Intel Corporation; - Eric King, Investment Director, Health & Life Sciences, Intel Capital*

CME

This course does not offer CME credit.

Printed on: 10/29/20

VW76

Increase Confidence and Improve Workflow Efficiencies with High Resolution Imaging Technology: Presented by Hologic, Inc.

Wednesday, Dec. 4 10:30AM - 11:45AM Room: South Building, Booth 5119

Participants
Linda R. Greer, MD, Phoenix, AZ (*Presenter*) Nothing to Disclose

Program Information

Discover how transitioning to Clarity HD® high-resolution imaging with Intelligent 2D® synthesized 2D images and 3DQuorum® may increase reading confidence, improve workflow efficiency while decreasing patient dose. The session includes high-resolution images with 3DQuorum® for attendees to view during the hands-on case-review. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

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VW55

Introduction to 3D ABUS Screening Workshop: Presented by GE Healthcare

Wednesday, Dec. 4 11:00AM - 12:00PM Room: South Building, Booth 5135

Participants

Kristina L. Jong, MD, Santa Barbara, CA (*Presenter*) Nothing to Disclose

Program Information

Kristina Jong, MD, Global Peer Educator, leads this introductory hands-on, interactive, Invenia 3D ABUS (automated breast ultrasound) Workshop. Attendees will review clinical cases on the Invenia™ Viewer and learn how 3D ABUS screening helps increase cancer detection in women with dense breast tissue. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

VW77

Clinical Perspective on 3D™ Guided Breast Biopsy and Real-Time Specimen Imaging: Presented by Hologic, Inc.

Wednesday, Dec. 4 12:15PM - 1:30PM Room: South Building, Booth 5119

Participants

Debbie L. Bennett, MD, Saint Louis, MO (*Presenter*) Advisory Board, Devicor Medical Products, Inc; Speaker, Hologic, Inc

Program Information

This experienced Radiologist's presentation and demonstration focuses on 3D™ guided breast biopsy and real-time specimen imaging. Come for a hands-on experience utilizing the Affirm® Prone Biopsy and Brevera® Systems. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

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VW56

Practice Guidelines for ABUS, Automated Breast Ultrasound: Presented by GE Healthcare

Wednesday, Dec. 4 12:30PM - 1:00PM Room: South Building, Booth 5135

Participants

Georgia Giakoumis-Spear, MD, Evanston, IL (*Presenter*) Nothing to Disclose

Program Information

In changing times of FDA legislative mandates and informed patients, learn how Invenia ABUS proves to be a true, effective adjunctive screening tool for detection of breast cancer in women with dense breast tissue. Clinical relevance, practice guidelines and how to successfully implement ABUS into clinical practice will be reviewed. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

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VW57

Advanced 3D ABUS Reading Workshop: Interesting Cases: Presented by GE Healthcare

Wednesday, Dec. 4 1:30PM - 2:30PM Room: South Building, Booth 5135

Participants
Lisa R. Stempel, MD, Chicago, IL (*Presenter*) Nothing to Disclose

Program Information

Interesting cases will be shared in this advanced hands-on, interactive Invenia ABUS (automated breast ultrasound) Workshop. Learn more about the unexpected benefits - beyond screening - of implementing ABUS into your clinical practice. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

VW78

A Revolution in Localization: Presented by Hologic, Inc.

Wednesday, Dec. 4 2:00PM - 3:15PM Room: South Building, Booth 5119

Participants

Mehran Habibi, Baltimore, MD (*Presenter*) Nothing to Disclose
Lisa A. Mullen, MD, Cockeysville, MD (*Presenter*) Nothing to Disclose

Program Information

Learn from both an experienced radiologist and surgeon as they provide an overview of traditional and new localization options for patients undergoing Breast Conserving Surgery (lumpectomy) or excisional biopsy. Their knowledgeable discussion followed by hands-on experience for attendees will review the benefits of various wire and non-wire localization technologies focusing on ways to improve workflow. The hands-on portion includes phantom-placement techniques, demonstrating multiple, innovative technologies including LOCalizer™ and Viera™. *Adding this session to your agenda does not secure your seat in this session. Secure your seat onsite by visiting Hologic's Workshop Room # 5119 in the South Hall.*

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VW58

ABUS in China: Progress on the Multicenter Study: Presented by GE Healthcare

Wednesday, Dec. 4 3:00PM - 3:30PM Room: South Building, Booth 5135

Participants

Mengmeng Jia, Beijing, China (*Presenter*) Research support, General Electric Company

Program Information

A multicenter hospital-based study was conducted in China to evaluate the diagnostic performance of automated breast ultrasound system (ABUS) for breast cancer diagnosis, by comparing with hand-held ultrasound and mammography. Based on the promising results from this study, a screening study was proposed. In this lecture, the speaker will introduce the results of the diagnostic study, and report the progress of the ongoing screening project. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

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RC602

Reporting Skills: Improving Our Reports and Those of Others (Interactive Session)

Thursday, Dec. 5 8:30AM - 10:00AM Room: S102CD

ED **IN**

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 1.75

Participants
Gregory M. Grimaldi, MD, Manhasset, NY (*Moderator*) Nothing to Disclose

For information about this presentation, contact:

ggrimald@northwell.edu

Special Information

This interactive session will use RSNA Diagnosis Live™. Please bring your charged mobile wireless device (phone, tablet or laptop) to participate.

Sub-Events

RC602A   Improving Reports: Perspectives of the Stakeholders

Participants
Gregory M. Grimaldi, MD, Manhasset, NY (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

ggrimald@northwell.edu

LEARNING OBJECTIVES

1) Define the components of a radiology report pertinent to the stakeholders. 2) Develop strategies to incorporate key information into a radiology report. 3) Describe the benefits of template reporting.

RC602B   Disease-specific Structured Reporting: Necessary Next Level to Stay Relevant

Participants
Olga R. Brook, MD, Boston, MA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

obrook@bidmc.harvard.edu

LEARNING OBJECTIVES

1) To learn about benefits of disease-specific structured reporting.

ABSTRACT

Disease-specific structured reporting is the next step in the evolution of radiology reporting. Simple structured reporting (organ level, paragraph style) is great solution for normal or near normal studies. However, when dealing with a specific disease entity, a tailored report serves better needs of referral physicians, as it provides all pertinent negative and positive findings needed to make a clinical decision.

RC602C   Using Change Management Strategies to Implement Structured Reporting

Participants
Shlomit Goldberg-Stein, MD, Bronx, NY (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

sgoldberg@montefiore.org

LEARNING OBJECTIVES

1) Apply change management models to the adaptive challenges of structured reporting. 2) Implement a practical methodology for successful adoption of structured reporting in your organization.

RC602D   Importance of Our Lexicon/Conveying Certainty in Our Reports

Participants
Thomas W. Loehfelm, MD, PhD, Atlanta, GA (*Presenter*) Nothing to Disclose

For information about this presentation, contact:

twloehfelm@ucdavis.edu

1) Identify factors that cause unclear communication. 2) Explain benefits of controlled lexicons for communicating degree of certainty.

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RC653

Secure Image Sharing for Education and Patient Care in Radiology

Thursday, Dec. 5 8:30AM - 10:00AM Room: S501ABC

ED   IN

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 1.75

Participants

Jason M. Hostetter, MD, Baltimore, MD (*Presenter*) Founder, Pacsbin.com
Saad Ranginwala, MD, Chicago, IL (*Presenter*) Nothing to Disclose
Wyatt M. Tellis, PhD, San Francisco, CA (*Presenter*) Officer, EyePACS, LLC

LEARNING OBJECTIVES

1) Learn about the advantages of using mobile devices for sharing radiological images, both for education and patient care. 2) Know about the risks involved in sharing personal data when using public messaging services like WhatsApp. 3) Learn about the strategies and techniques to share medical images safely and securely. 4) Know about the existing regulations for protection of privacy and personal data.

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SSQ11

Informatics (Education, Analytics, Quantitative)

Thursday, Dec. 5 10:30AM - 12:00PM Room: N229

`AI` `BQ` `ED` `IN`

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 1.75

Participants

Gary J. Wendt, MD, Middleton, WI (*Moderator*) Medical Advisory Board, McKesson Corporation; Medical Advisory Board, HealthMyne, Inc; Stockholder, HealthMyne, Inc; Co-founder, ImageMoverMD;
Hari Trivedi, MD, Atlanta, GA (*Moderator*) Consultant, Arterys Inc; Founder, Lightbox AI; Founder, BioData Consortium

Sub-Events

SSQ11-01 Redesigning Radiology Training for The Innovation Age: Two-Year Results of the First Core Residency Curriculum in Invention, Design Thinking, and Artificial Intelligence - The MESH Incubator

Thursday, Dec. 5 10:30AM - 10:40AM Room: N229

Participants
Marc D. Succi, MD, Boston, MA (*Presenter*) Patent agreement, Frequency Therapeutics, LLC; Patent agreement, AugMI Labs, Inc; Stockholder, 2 Minute Medicine
Raul N. Uppot, MD, Boston, MA (*Abstract Co-Author*) Grant, Controlled Risk Insurance Corporation
Michael S. Gee, MD, PhD, Boston, MA (*Abstract Co-Author*) Nothing to Disclose
Theresa C. McLoud, MD, Boston, MA (*Abstract Co-Author*) Nothing to Disclose
James A. Brink, MD, Boston, MA (*Abstract Co-Author*) Board of Directors, Accumen, Inc

For information about this presentation, contact:

msucci@mgh.harvard.edu

CONCLUSION

The MESH CRDC is the first core curriculum in technological innovation integrated into a residency program, and results in significant increases in the technological innovation skill- and knowledge-set of residents.

Background

Radiology training lacks structured processes to help staff develop patient-centered technologies as well as curricula to train healthcare professionals in the fundamentals of informatics, artificial intelligence, idea generation, intellectual property, device and software prototyping, and entrepreneurship. To expand our previously created first-in-kind innovation incubator in a radiology department, the Medically Engineered Solutions in Healthcare (MESH) Incubator™, we created and tested a novel residency innovation curriculum, the MESH Core Residency Design Curriculum (CRDC™).

Evaluation

We conducted a Likert-type survey of current radiology residents regarding aspects of medical innovation to inform the design of the MESH CRDC, a one-week innovation rotation. The MESH CRDC took place in the MESH Incubator, a physical invention workspace in an academic hospital. Residents were enrolled from an ACGME-accredited radiology residency program. Residents who completed the MESH CRDC were assessed using a 21 question pre- and post-course exam, created by experts in various aspects of innovation. A pre- and post-course Likert-type method was employed to assess resident comfortability with 5 fundamental aspects of medical technologies. Anonymous sessions ratings and comments were also collected. Wilcoxon matched-pairs signed-rank test was used to analyze differences in pre- and post-course data.

Discussion

11 residents completed the MESH CRDC. There was a significant increase in exam scores after completion of the CRDC rotation, with a median pre- and post-course score of 52.38% and 90.48%, respectively ($p = .001$, 95% confidence interval = 38.10% to 57.14% and 76.19% to 100.00%, respectively). Pre- and post-course Likert methods (1-5, 1 = very uncomfortable, 5 = very comfortable) were employed to assess resident comfortability in 5 key tenants of innovation in medicine, demonstrating significant post-course increases in multifaceted aspects of a technological innovation skillset.

SSQ11-02 A Web-Based MRI Simulator for Radiographer Education: Quantitative Evaluation of an Actual Classroom Experience

Thursday, Dec. 5 10:40AM - 10:50AM Room: N229

Participants
Daniel Treceno-Fernandez, Valladolid, Spain (*Abstract Co-Author*) Research funded, SME Giveme5D
Juan Calabia-del-Campo, Valladolid , Spain (*Abstract Co-Author*) Research funded, SME Giveme5D
Antonio Luna, MD,PhD, Jaen, Spain (*Abstract Co-Author*) Speaker, Canon Medical Systems Corporation; Speaker, Koninklijke Philips NV; Speaker, Siemens AG
Miguel Bote-Lorenzo, Valladolid, Spain (*Abstract Co-Author*) Nothing to Disclose
Eduardo Gomez-Sanchez, Valladolid, Spain (*Abstract Co-Author*) Nothing to Disclose

Rodrigo de-Luis-Garcia, PhD, Valladolid , Spain (*Abstract Co-Author*) Research funded, SME Giveme5D
Carlos Alberola-Lopez, PhD,MENG, Valladolid, Spain (*Presenter*) Research funded, SME Giveme 5D

For information about this presentation, contact:

caralb@tel.uva.es

PURPOSE

The present study gives a quantitative answer to the following question: Does an MRI simulator built on specific functional and non-functional requirements help radiographers learn MRI theoretical and practical concepts better than a traditional educational method based on lectures?

METHOD AND MATERIALS

We designed and implemented a web-based MRI simulator for educational purposes. The simulator mimics an actual MRI console, and allows trainees to select and execute MRI sequences, with the capacity to perform geometrical planning, to modify acquisition parameters and to obtain simulated images accordingly. Using this MRI simulator, the study was carried out during a one-day classroom experience by a total of 60 students from the School of Radiographers at the Hospital XXXXX. The experiment followed a randomized pre-test post-test design with a control group and an experimental group. Both groups attended the same introductory lecture on MRI; then the control group attended a practical lecture while students in the experimental group carried out guided exercises with the simulator, covering the same contents. We designed a 10-item instrument to assess knowledge level before (pre-test) and after (post-test) our intervention. The instrument was split into two halves, corresponding to each of the two sessions attended. We hypothesized that the use of the simulator would reflect on increased learning outcomes in the practical part of the instrument. The instrument had an acceptable reliability value.

RESULTS

No differences were found in the pre-test; statistical differences (p-value < 0.05) were found in favor of the experimental group in the second half of the post-test, both in terms of the test score (p=0.018) as well as the gain (defined as the difference between post-test and pre-test scores, p=0.036); its associated effect size turned out to be significant as well (Cohen's d > 0.6).

CONCLUSION

We have designed an experiment aimed at comparing differences in learning outcomes between a method that makes use of an MRI simulator and a traditional educational approach. We have shown that a simulator built on specific design requirements is a valuable complement to traditional education procedures; our departing hypothesis is now backed up with statistical differences in learning results

CLINICAL RELEVANCE/APPLICATION

Despite the large number of MRI simulators that have been proposed, we have no evidence that any of them has been evaluated in terms of educational power. Our design requirements (capability of spatial planning, sequence parameter tuning and artifact reduction) have given rise to measurable differences in an actual classroom experience. This encourages using our technology for radiographer education.

SSQ11-03 Stop Repeating the Same Old Mistakes: Improving Residents' Reporting through a Report Comparison Tool

Thursday, Dec. 5 10:50AM - 11:00AM Room: N229

Participants
Jan Vosshenrich, MD, Basel, Switzerland (*Presenter*) Nothing to Disclose
Joshy Cyriac, Basel, Switzerland (*Abstract Co-Author*) Nothing to Disclose
Bram Stieltjes, MD,PhD, Basel, Switzerland (*Abstract Co-Author*) Nothing to Disclose
Tobias Heye, MD, Basel , Switzerland (*Abstract Co-Author*) Nothing to Disclose
Philipp Brantner, MD, Basel, Switzerland (*Abstract Co-Author*) Nothing to Disclose

For information about this presentation, contact:

jan.vosshenrich@usb.ch

PURPOSE

To create a web-based report comparison tool for fast and objective feedback helping residents to improve the quality of their radiologic reports and to let them conveniently track their progress over time.

METHOD AND MATERIALS

Different states of each radiologic report are queried from the RIS-database automatically every 15 minutes. States are tracked according to the RIS-data and include the resident's first draft, the revised report after review with an attending and the finalized report. Changes in content between the different states of a report are visualized as a color-coded side-by-side comparison. A search engine lets the user select a time period or a number of reports (e.g. last 10 reports), subspecialties (e.g. neuroimaging) and modalities (e.g. MRI). Furthermore, only cases reviewed and finalized by a specific attending may be selected. A dashboard view visualizes calculated metrics for the queried reports, including similarity index (intersection of initial and final version divided by union of initial and final version), add index (ratio of added words) and delete index (ratio of deleted words). Indices are displayed for each report as well as a personal median for all reports queried which is displayed side-by-side to the overall median of all residents.

RESULTS

Since its introduction in late 2017, our report comparison tool assisted residents in tracking changes in more than 150,000 reports. Visualized data in side-by-side comparison offers residents an easy and fast way to comprehend changes in each report as well as to identify recurring errors. The dashboard provides residents with a macroscopic view on progress over time and may assist in identifying sections where reports needs more emphasis.

CONCLUSION

One of the key skills to acquire during residency is a clear style of reporting and to be able to explicitly communicate findings and recommendations. Our tool offers residents additional objective feedback concerning the quality of their reports. It is independent of subjective evaluation by an attending and illustrates development over time.

CLINICAL RELEVANCE/APPLICATION

Report state comparison is a useful tool to provide personalized feedback and to better understand learning patterns of residents. Data may be extracted and analyzed to maintain effective teaching.

SSQ11-04 Algorithmic Prediction of Delays in On-Call Radiology Scans and Interpretations: A Quality Improvement Study

Thursday, Dec. 5 11:00AM - 11:10AM Room: N229

Participants
Vaibhavi Shah, Cambridge, MA (*Abstract Co-Author*) Nothing to Disclose
Yeshwant R. Chillakuru, BA,MSc, Washington, DC (*Abstract Co-Author*) Nothing to Disclose
Alexander Rybkin, MD, San Francisco, CA (*Abstract Co-Author*) Founder, Caredination Inc
Thienkhai H. Vu, MD, PhD, San Francisco, CA (*Abstract Co-Author*) Nothing to Disclose
Youngho Seo, PhD, San Francisco, CA (*Abstract Co-Author*) Nothing to Disclose
Jae Ho Sohn, MD, San Francisco, CA (*Presenter*) Nothing to Disclose

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CONCLUSION

A machine learning algorithm was trained to predict delays in scanning and interpreting cross-sectional radiology studies while on call, which may serve as a step towards quality improvement.

Background

The time taken for radiology scans to be performed, interpreted, and communicated back to the clinicians during on-call settings is an important quality measure that carries patient safety and hospital finance implications. Reasons for delays in radiology are multifactorial; thus identifying the cohort of cases expected to be delayed would represent a step towards quality improvement. The aim of this study is to leverage the big data approach in radiology to predict cases that are likely to result in delay.

Evaluation

We collected 12,525 cross-sectional studies from May 2018 to March 2019 at a single academic hospital that were performed during off-hours (evenings, nights, weekends, and holidays) and interpreted by on-call residents. More than 30 metadata for each study were extracted, including order time, scan time, phone call time to clinician, time of preliminary interpretation, clinical history, scanner, body part, ED vs inpatient, contrast, resident, technologist, and ordering physician. After splitting data into training and test sets (75:25 ratio), a random forest algorithm was trained to predict above median delay in exam order to preliminary reporting (or phone communication). Randomized parameter search was conducted in Scikit-Learn to dynamically derive the optimal tree numbers (n=100), depths, and useful features (ED vs inpatient, body part, order time, scan time). Confusion matrix and ROC curve were generated.

Discussion

The average time from order to preliminary reporting (or phone call) was 320.4 +/- 463.7 (median 194.5) minutes, with scan completion to reporting time averaging 89.01 +/- 198.2 minutes (median 69.0). The random forest model achieved AUC of ROC curve on the test set (n=3,132) at 0.76. 1,168 cases were correctly classified as below median and 1126 cases were correctly classified as above median. 414 cases were incorrectly classified as below median and 424 cases were incorrectly classified as above median. Error analysis confirmed no systematic error.

SSQ11-05 Staying on Time: Data-Driven Algorithm for Optimizing Patient Scheduling

Thursday, Dec. 5 11:10AM - 11:20AM Room: N229

Participants
Oleg S. Pianykh, Newton Highlands, MA (*Presenter*) Nothing to Disclose
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CONCLUSION

Optimal scheduling uses real exam duration distributions to rearrange the order of exams to produce the most stable (least delayed) schedule. The algorithm is not MRI-specific and can be applied to any other modality or workflow.

Background

Modern healthcare workflow presents a complex combination of different resources and priorities, yet exam scheduling still relies on very outdated, static, manual techniques.. Despite the variability of exam length even within the same exam types, exams are typically scheduled into same-size blocks., The order of exams is also rarely taken into account to design a stable schedule. Our goal was to devise an algorithm to take into account the probabilistic nature of exam lengths in the formulation of an optimal schedule.

Evaluation

We used a full year of MRI scheduling data available from our Radiology Information System (3700 exams per MRI scanner). Two

data-driven algorithms were developed: one to learn the real distribution of exam durations from the RIS data, and one to discover the most optimal sequencing of exams during a day. The optimal sequencing was formulated as the order of real exams most likely to stay on time. Exam batching to speed up processing was considered as well. With many millions of possible sequences, a highly-efficient branch-and-bound algorithm was designed to find the best solution in a few minutes of computational time.

Discussion

The analysis of the current, manually-designed schedules has revealed that they are far from optimal, with significant amounts of delay accumulating as the day progresses. It has also demonstrated that scheduling sequences change frequently, randomly deviating from the initial design. These problems can be solved or significantly reduced by replacing random and suboptimal schedules by optimal schedules, resulting in 30-45-minute reduction of delay time depending on the probabilistic exam composition.

SSQ11-06   How Not To Do Radiomics - Observations from a Double Baseline Study in Glioblastoma

Thursday, Dec. 5 11:20AM - 11:30AM Room: N229

Participants
Katharina V. Hoebel, BSC,MD, Charlestown, MA (*Presenter*) Nothing to Disclose
Andrew Beers, Charlestown, MA (*Abstract Co-Author*) Nothing to Disclose
Ken Chang, Boston, MA (*Abstract Co-Author*) Nothing to Disclose
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James M. Brown, PhD, Charlestown, MA (*Abstract Co-Author*) Nothing to Disclose
Marco C. Pinho, MD, Dallas, TX (*Abstract Co-Author*) Nothing to Disclose
Bruce R. Rosen, MD, PhD, Charlestown, MA (*Abstract Co-Author*) Nothing to Disclose
Tracy T. Batchelor, MD, Boston, MA (*Abstract Co-Author*) Nothing to Disclose
Elizabeth Gerstner, MD, Boston, MA (*Abstract Co-Author*) Nothing to Disclose
Jayashree Kalpathy-Cramer, MS, PhD, Portland, OR (*Abstract Co-Author*) Research support, General Electric Company; Research support, F. Hoffmann-La Roche Ltd;

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PURPOSE

Radiomics, the extraction of predefined quantitative features from a region of interest in medical imaging, is a popular tool for disease classification and predicting outcomes. Intensity and texture features are highly sensitive to variations in acquisition parameters. Here, we focus on the effect of normalization on the repeatability of intensity and texture features in a unique double-baseline magnetic resonance imaging (MRI) dataset of patients with glioblastoma. We find that preprocessing is a key, yet under reported driver of repeatability and reproducibility.

METHOD AND MATERIALS

We evaluated imaging from 48 patients from two IRB approved clinical trials. Patients underwent two baseline scans 2-5 days apart using identical imaging protocols on a 3.0T MRI system. Radiomics features were extracted from skull-stripped T2w-FLAIR using the pyradiomics package based on manual segmentations by expert raters. We extracted features under four different conditions: fixed bin width (of 10) or fixed bin count when quantizing voxel intensities, and with or without normalization. We determined intraclass correlation coefficient (ICC) between feature values on the first and second visit as a measure of repeatability and Spearman's correlation coefficient to look for associations between features.

RESULTS

Under each condition, we extracted 16 intensity and 22 texture features. ICC values ranged between 0.5 to 0.9 for different preprocessing schemes. Normalization leads to higher ICCs values for intensity features, but has a mixed effect on the repeatability of texture features depending on the binning technique. Correlation between different texture features is substantially higher using fixed bin width compared to fixed bin count.

CONCLUSION

Normalization has a positive effect on intensity and texture feature repeatability on MRI. Users need to be careful in the choice of histogram bins to ensure the extraction of meaningful features and preprocessing and parameters need to be reported to enable reproduction of radiomics research. More research on the influence of image acquisition and feature extraction on the repeatability of radiomic features has to be undertaken to make radiomics a robust image-analysis tool.

CLINICAL RELEVANCE/APPLICATION

We examine the effect of normalization and histogram binning on the repeatability of radiomic features to make radiomics a widely adoptable tools for clinical application.

SSQ11-07   Differentiation between Pancreatic Cancer and Nontumorous Pancreas on Computed Tomography by Radiomics and Machine Learning

Thursday, Dec. 5 11:30AM - 11:40AM Room: N229

Participants
Po-Ting Chen, MD, Taipei City, Taiwan (*Presenter*) Nothing to Disclose
Huihsuan Yen, Taipei, Taiwan (*Abstract Co-Author*) Nothing to Disclose
Dawei Chang, Taipei, Taiwan (*Abstract Co-Author*) Nothing to Disclose
Wei-Chih Liao, MD,PhD, Taipei, Taiwan (*Abstract Co-Author*) Nothing to Disclose
Kao-Lang Liu, MD, Taipei, Taiwan (*Abstract Co-Author*) Nothing to Disclose
Holger R. Roth, PhD, Bethesda, MD (*Abstract Co-Author*) Employee, NVIDIA Corporation; Researcher, NVIDIA Corporation
Weichung Wang, PhD, Taipei, Taiwan (*Abstract Co-Author*) Nothing to Disclose
Tinghui Wu, Taipei, Taiwan (*Abstract Co-Author*) Nothing to Disclose

PURPOSE

Pancreatic cancer (PC) is the most lethal cancer and the fourth leading cause of cancer death in the United States. Radiomics is a methodology that extracts quantitative statistics and features from medical images. The purpose of this study is to develop a machine learning model to differentiate PC from nontumorous pancreas (NP) on contrast-enhanced computed tomography (CT) using radiomic features.

METHOD AND MATERIALS

Contrast-enhanced venous phase CT images of 100 cases with PC and 100 controls were reviewed by an expert radiologist, and tumors and pancreases were manually labeled for PC. Most of NP labels were segmented by a pre-trained deep learning model. Data were split into training set (60 NP cases, 60 PC cases), validation set (20 NP cases, 19 PC cases), and test set (20 NP cases, 19 PC cases). Pancreas and tumor were cut into patches of 20 pixels by 20 pixels for subsequent extraction of radomic features. A total of 91 radiomic features were extracted and subject to eXtreme Gradient Boosting (XGBoost) model to perform classification.

RESULTS

A total of 3596 patches of PC and 19446 patches of NP were generated and used for training, and the testing set included 691 patches of PC and 3889 patches of NP. For differentiation between PC and NP, the accuracy of the XGBoost by patch-based analysis was 93.43%, with an area under the receiver operating characteristic (ROC) curve (AUC) of 0.94712. In patient-based analysis, the accuracy, sensitivity, specificity and AUC were 95.12%, 0.90476, 1, and 0.95238, respectively. Top 10 features with highest feature importance score were median, 10 percentile, energy, skewness, 90 percentile, maximum, minimum, and kurtosis in first order statistics, dependence nonuniformity in gray level dependence matrix (GLDM), and cluster shade in gray level cooccurrence matrix (GLCM).

CONCLUSION

We developed a machine learning model that could differentiate between CTs of pancreas with PC and without PC with a 95.12% accuracy in patient-based analysis and 93.43% accuracy in patch-based analysis. Among the important features which our model selects, features in first order statistics have the highest importance score followed by features in higher order statistics related to nonuniformity.

CLINICAL RELEVANCE/APPLICATION

This model can accurately differentiate between cancerous and nontumorous pancreas and is a potential computer-aided diagnosis tool.

SSQ11-08 Use of DICOM Header Analysis for Practice Quality Improvement and Equipment Utilization in Digital Radiography

Thursday, Dec. 5 11:40AM - 11:50AM Room: N229

Participants
Zaiyang Long, PhD, Rochester, MN (*Presenter*) Nothing to Disclose
Alisa Walz-Flannigan, PhD, Rochester, MN (*Abstract Co-Author*) Nothing to Disclose
Brandon D. Stuve, Rochester, MN (*Abstract Co-Author*) Nothing to Disclose
Laurel A. Littrell, MD, Winona, MN (*Abstract Co-Author*) Nothing to Disclose
Beth A. Schueler, PhD, Zumbrota, MN (*Abstract Co-Author*) Nothing to Disclose

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CONCLUSION

Clinical DICOM header analysis is a feasible and valuable tool to provide insight into unintended practice variation and provides metrics that can be used to optimize and better standardize clinical image quality.

Background

DICOM headers contain a wealth of information about image acquisition and processing parameters that could be used for practice quality improvement and equipment utilization in digital radiography (DR).

Evaluation

Infrastructure was architected and tools were developed to receive and extract DICOM header information from clinical DR images. Image information from public and private header elements from 18 systems were mined, aggregated and analyzed. Data extracted included study and image times, study description, station name, software version, kV, SID, exposure mode, AEC chamber selection, mAs, exposure time, grid use, detector serial number, exposure index (EI), EI target and deviation index, as well as processing-related tags such as processing name, window width/level, parameters such as contrast and edge enhancement when available. This data was used for efforts towards practice standardization, image optimization and equipment utilization. In one case, we found grids were not used as anticipated for several exams with a gridded technique. In another example, many exam views showed variation in image processing selection; this identified where system defaults were not set up as expected, or where technologists were struggling to consistently achieve good image quality with default processing. Data extracted from headers also made it more efficient to ascertain median EI values and ranges of EI. EI data combined with image quality analysis, helped to identify where we needed to improve our EI targets, techniques, etc. Data was also used to help determine the frequency of use and estimated need for purchase of 10"×12" detectors.

Discussion

Data analyzed from clinical DICOM headers provided us with valuable information on equipment usage, image acquisition and processing. These data have been successfully used for quality improvement, technologist education, and equipment purchase decisions.

SSQ11-09 Liver Surface Nodularity as a Quantitative CT Imaging Biomarker for Staging Liver Fibrosis

Thursday, Dec. 5 11:50AM - 12:00PM Room: N229

Participants

Andrew D. Smith, MD, PhD, Birmingham, AL (*Presenter*) CEO, AI Metrics LLC ; Owner, AI Metrics LLC ; CEO, Radiostics LLC; Owner, Radiostics LLC; CEO, Liver Nodularity LLC ; Owner, Liver Nodularity LLC ; Research Grant, General Electric Company; Speaker, Canon Medical Systems Corporation; Speaker, AlgoMedica, Inc

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CONCLUSION

The LSN score, a quantitative CT imaging biomarker, has developed into a clinically applicable method for accurately staging of liver fibrosis.

Background

Chronic liver disease (CLD) is a major cause of morbidity and mortality in the United States (U.S.) and worldwide. The progression of liver fibrosis is common with HCV, HBV, AH, and NASH forms of CLD and is initially a slow and gradual development of fibrotic bands and numerous regenerative nodules that progressively increase in number and size. We developed software to quantify liver surface nodularity on CT images and generate a Liver Surface Nodularity (LSN) score that can be used to noninvasively and stage liver fibrosis and cirrohosis.

Evaluation

In retrospective studies comparing the LSN score to the stage of HCV hepatic fibrosis on biopsy, the range of accuracy (AUC) for differentiating early fibrosis (>F2), advanced fibrosis (>F3) and cirrhosis (F4) were: 0.88-0.90, 0.89-0.93, and 0.90-0.96, respectively. The accuracy for staging hepatic fibrosis was further improved when mathematically combined with the FIB-4 index, which includes patient age, basic serum liver function tests, and platelet count. The LSN score has also been used to substage cirrhosis and was highly predictive of hepatic decompensation and death in a large cohort (N=830) with a variety of forms of cirrhosis. Furthermore, the LSN score demonstrated high diagnostic accuracy (AUC: 0.87) for detecting clinically significant portal hypertension and outperformed liver and splenic volumes and multiple serum indices.

Discussion

The advantages of the CT LSN score for staging hepatic fibrosis are high accuracy and precision with HCV CLD, high accuracy for staging cirrhosis and predicting clinically significant portal hypertension and future liver-related events, vendor neutral method, rapid image acquisition and processing, no need for patient fasting, no need for additional hardware, very low technical failure rate, and applicability to routine noncontrast CT images.

Printed on: 10/29/20

VW61

Advancing Personalized Breast Care: Setting up the UK BRAID Trial: Presented by GE Healthcare

Thursday, Dec. 5 11:30AM - 12:00PM Room: South Building, Booth 5135

Participants

Fiona J. Gilbert, MD, Cambridge, United Kingdom (*Presenter*) Research Grant, Hologic, Inc; Research Grant, General Electric Company ; Research Consultant, Alphabet Inc; Research support, Bayer AG; Research collaboration, Volpara Health Technologies Limited

Program Information

Women with dense breasts have lower sensitivity compared to those women with fatty breasts and they also have an increased risk of developing breast cancer. Supplemental screening is recommended in some parts of Europe and the US. However, while it is clear that different techniques will pick up additional cancers, there has not been a comparison of which of these modalities is more appropriate. The BRAID trial is a randomized controlled trial to compare supplemental whole breast ultrasound with Contrast Enhanced Mammography and Abbreviated MRI. The outcome measures are cancer detection rate, size and types of cancers and recall rates of supplemental modality. *RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.*

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

VW62

Automating Breast Ultrasound: A Live Experience: Presented by GE Healthcare

Thursday, Dec. 5 12:30PM - 1:00PM Room: South Building, Booth 5135

Participants

Kristina L. Jong, MD, Santa Barbara, CA (*Presenter*) Nothing to Disclose

Program Information

This session will cover the latest technological advancements in ABUS design and performance. Attendees will learn how improvements in workflow and image quality have the potential to increase cancer detection in women with dense breast tissue.
RSVP is required; adding this session to your agenda does not secure your seat in this session. Click the link below to RSVP.

RSVP Link

http://ge.cvent.com/events/ge-breast-health-advantage-workshop-rsna-2019-/event-summary-d271e6d32bb947418ff2cd821db4757e.aspx

Printed on: 10/29/20

RC702

Assessment in Education

Thursday, Dec. 5 4:30PM - 6:00PM Room: S401CD

ED

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 1.75

Participants
Sheryl G. Jordan, MD, Chapel Hill, NC (*Moderator*) Nothing to Disclose
Tara M. Catanzano, MD, Springfield, MA (*Moderator*) Nothing to Disclose

Sub-Events

RC702A   Assessing Procedural Skills

Participants
Eric M. Goodman, MD, Mineola, NY (*Presenter*) Nothing to Disclose

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LEARNING OBJECTIVES

1) Define procedural assessment and examine how it differs from cognitive assessment. 2) Compare and contrast different methods of procedural assessment. 3) Integrate the use of objective procedural assessment into the education of medical students, residents, and fellows.

RC702B   Mirror, Mirror: Assessing our Own Teaching Skills

Participants
Teresa Chapman, MD,MA, Seattle, WA (*Presenter*) Nothing to Disclose

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LEARNING OBJECTIVES

1) Contemplate the specific components of your didactic lectures that boost your trainees' skills. 2) Develop three new questions on your lecture evaluations that will generate information that can improve your next lecture. 3) Generate a dialogue and pattern of engagement with your trainees that will provide you feedback on your teaching at the workstation.

RC702C   Item Writing Workshop

Participants
Sheryl G. Jordan, MD, Chapel Hill, NC (*Presenter*) Nothing to Disclose
Tara M. Catanzano, MD, Springfield, MA (*Presenter*) Nothing to Disclose

Printed on: 10/29/20

RC727

Beyond the Podium: Tips for Better Teaching and Testing from Trainees through CME

Thursday, Dec. 5 4:30PM - 6:00PM Room: S501ABC

ED   HP

AMA PRA Category 1 Credits ™: 1.50
ARRT Category A+ Credit: 1.75

Participants
David J. Disantis, MD, Jacksonville, FL (*Moderator*) Nothing to Disclose

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Sub-Events

RC727A   Keep it Brain-friendly: Creating Presentations That Stick

Participants
Andres R. Ayoob, MD, Lexington, KY (*Presenter*) Nothing to Disclose

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LEARNING OBJECTIVES

1) Explain the components of cognitive load. 2) Apply evidence-based principles to reduce cognitive load in multimedia presentations. 3) Employ evidence-based presentation techniques that foster learning.

RC727B   Keep it Practical: Educational Exhibits and Journal CME That They'll Appreciate

Participants
Meghan G. Lubner, MD, Madison, WI (*Presenter*) Grant, Koninklijke Philips NV; Grant, Johnson & Johnson;

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LEARNING OBJECTIVES

1) Review a step-by-step approach to creating an educational exhibit. 2) Discuss a few tips for creating meaningful content and visual appeal. 3) Review the process for parlaying an educational exhibit into a manuscript with CME.

RC727C   Keep it Honest: Writing Good Questions Doesn't Have to Be Hard

Participants
David J. Disantis, MD, Jacksonville, FL (*Presenter*) Nothing to Disclose

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LEARNING OBJECTIVES

1) Describe the components of a properly constructed question. 2) Recognize the most common errors in question writing, and understand how to avoid them.

ABSTRACT

Question writing flaws remain common in radiology's leading pubilcatons. This presentation presents the 'anatomy' of a good test question, with tips for avoiding the most common mistakes.