



American Association  
of Physicists in Medicine

# PHYSICS AND BASIC SCIENCE

## 104<sup>TH</sup> Scientific Assembly and Annual Meeting

Radiological Society of North America  
McCormick Place, Chicago

**November 25–30**

Meeting.RSNA.org #RSNA18

**RSNA<sup>®</sup> 2018**  
**TOMORROW'S**  
RADIOLOGY TODAY 

The RSNA 2018 logo graphic is a stylized, white, abstract shape that resembles a folded piece of paper or a wing, positioned to the right of the text 'TOMORROW'S' and 'RADIOLOGY TODAY'.

## Accreditation and Designation Statements

The Radiological Society of North America (RSNA®) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The RSNA designates this live activity for a maximum of **99.25 AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The Commission on Accreditation of Medical Physics Education Program (CAMPEP) has approved the direct transfer of *AMA PRA Category 1 Credit™* to MPCEC on a credit-for-credit basis for medical physicists.

## Corporate Symposium

Please refer to each course description in the online program to determine if CME credit is offered for the session. Instructions on claiming credit will be provided during the course. CME credit for the Corporate Symposiums will be provided through a third party provider and not through RSNA.

# Walk Through The Week

## CME Learning Checkpoint

CME Learning Checkpoint Exhibit ED026 (Smoke and Mirrors: A Review of the Top Artifacts on CT, MR, Ultrasound, and Molecular Imaging That Residents Should Know)

**Session ED026 . . . CME Learning Checkpoint Community**

CME Learning Checkpoint Exhibit ED027 (The Physics of Diffusion MRI and its Applications in Oncology)

**Session ED027 . . . CME Learning Checkpoint Community**

## SATURDAY, NOV 24, 2018

### 12:00–2:00 PM

#### Educational Courses

AAPM/RSNA Physics Tutorial Session 1

**Session SPPH01 . . . . .E351**

### 2:15–4:15 PM

#### Educational Courses

AAPM/RSNA Physics Tutorial Session 2

**Session SPPH02 . . . . .E351**

## SUNDAY, NOV 25, 2018

### Case of the Day

Physics Sunday Case of the Day

**Session ED013-SU . . . . .Case of Day, Learning Center**

### 10:45 AM–12:15 PM

#### Scientific Papers Sessions

Physics (Ultrasound in Imaging and Radiation Therapy)

**Session SSA20 . . . . . S102CD**

Physics (Dual-Energy/Spectral CT)

**Session SSA21 . . . . . S103AB**

Physics (Image Processing in Imaging and Radiation Therapy)

**Session SSA22 . . . . . S103CD**

Radiation Oncology (Radiobiology/Science)

**Session SSA23 . . . . . E353A**

### 12:30–1:00 PM

#### Posters and Exhibits: Discussions

Physics Sunday Poster Discussions

**Session PHS-SUA . . . . PH Community, Learning Center**

### 1:00–1:30 PM

#### Posters and Exhibits: Discussions

Physics Sunday Poster Discussions

**Session PHS-SUB . . . . PH Community, Learning Center**

## 2:00–3:30 PM

### Educational Courses

Advances in CT: Technologies, Applications, Operations-  
Quantitative CT (QIBA)

**Course RC121** . . . . . E351

Anatomical MR Imaging for Radiotherapy Planning and  
Guidance

**Course RC122** . . . . . S103AB

ACR Accreditation Updates I

**Course RC123** . . . . . N226

Medical Physics 3.0: Re-envisioning Medical Physics in the  
Era of Value-based and Precision Healthcare

**Course RC125** . . . . . S103CD

Core Cybersecurity for Imaging Departments and Imagers:  
Threats, Vulnerabilities and Best Practices Part 1

**Course RCC12** . . . . . S501ABC

## MONDAY, NOV 26, 2018

### Case of the Day

Physics Monday Case of the Day

**Session ED013-MO** . . . . . Case of Day, Learning Center

## 8:30–10:00 AM

### Educational Courses

Advances in CT: Technologies, Applications, Operations-  
Special Purpose CT

**Course RC221** . . . . . S102CD

Functional MR Imaging for Tumor Targeting in Radiotherapy

**Course RC222** . . . . . S502AB

ACR Accreditation Updates II

**Course RC223** . . . . . E260

Mini-course: Image Interpretation Science - Clinical  
Foundations of Medical Image Perception: Why Study  
Radiologists

**Course RC225** . . . . . S104A

## 10:30 AM–12:00 PM

### Scientific Papers Sessions

Physics (MR: New Techniques, Systems, Evaluation)

**Session SSC12** . . . . . N226

Physics (CT: New Systems)

**Session SSC13** . . . . . N230B

## 12:15–12:45 PM

### Posters and Exhibits: Discussions

Physics Monday Poster Discussions

**Session PHS-MOA** . . . . PH Community, Learning Center

**12:45–1:15 PM****Posters and Exhibits: Discussions**

Physics Monday Poster Discussions

**Session PHS-MOB . . . . PH Community, Learning Center****1:30–2:45 PM****Educational Courses**

Basic Physics Lecture for the RT: Dual Energy CT Applications in Radiation Therapy

**Session SPPH21 . . . . . S402AB****1:30–5:45 PM****Educational Courses**

Physics Symposium: Highlights of Medical Physics Leadership Academy (MPLA) Summer School

**Session SPPH22. . . . . S503AB****3:00–4:00 PM****Scientific Papers Sessions**

Physics (CT: QA and Protocols)

**Session SSE22 . . . . . S504AB**

Physics (Breast X-Ray Imaging)

**Session SSE23 . . . . . S502AB**

Physics (MR: Diffusion and Susceptibility Imaging)

**Session SSE24 . . . . . S504CD****TUESDAY, NOV 27, 2018****Case of the Day**

Physics Tuesday Case of the Day

**Session ED013-TU . . . . . Case of Day, Learning Center****8:30–10:00 AM****Educational Courses**

Advances in CT: Technologies, Applications, Operations-Spectral CT

**Course RC321 . . . . . E351**

Functional MR Imaging for Normal Tissue Response Assessment in Radiotherapy

**Course RC322. . . . . S104A**

Evolving Perspectives on Ultrasound Safety

**Course RC323. . . . . S504AB**

Mini-course: Image Interpretation Science - Radiologic Expertise: Incorporating Perception into Training

**Course RC325. . . . . S102CD****10:30 AM–12:00 PM****Plenary Sessions**

Tuesday Morning Plenary Session

**Session PS31 . . . . . E451B**

## 10:30 AM–12:00 PM

### Scientific Papers Sessions

Physics (CT: Radiation Dose)

**Session SSG12** . . . . . S404CD

Physics (CAD/Machine Learning)

**Session SSG13** . . . . . S404AB

Physics (CT: New Techniques)

**Session SSG14** . . . . . S405AB

## 12:15–12:45 PM

### Posters and Exhibits: Discussions

Physics Tuesday Poster Discussions

**Session PHS-TUA** . . . . . PH Community, Learning Center

## 12:45–1:15 PM

### Posters and Exhibits: Discussions

Physics Tuesday Poster Discussions

**Session PHS-TUB** . . . . . PH Community, Learning Center

## 3:00–4:00 PM

### Scientific Papers Sessions

Physics (Diagnostic X-Ray)

**Session SSJ21** . . . . . N229

Physics (Image Reconstruction)

**Session SSJ22** . . . . . N227B

Physics (CT: Cone-Beam CT in Imaging and Radiation Therapy)

**Session SSJ23** . . . . . N226

## 4:30–6:00 PM

### Educational Courses

Advances in CT: Technologies, Applications, Operations - CT Performance

**Course RC421** . . . . . N226

Dual Energy CT for Radiotherapy Applications

**Course RC422** . . . . . S104A

Making Patients and Staff Safer in Interventional Procedures

**Course RC423** . . . . . S403A

Mini-course: Image Interpretation Science - Computational Perception

**Course RC425** . . . . . S103AB

## WEDNESDAY, NOV 28, 2018

### Case of the Day

Physics Wednesday Case of the Day

**Session ED013-WE . . . . . Case of Day, Learning Center**

### 8:30–10:00 AM

#### Educational Courses

Advances in CT: Technologies, Applications, Operations-  
Functional CT

**Course RC521 . . . . . E351**

Advanced PET Imaging for Radiotherapy Planning and  
Response Assessment

**Course RC522 . . . . . N226**

Optimization and Technology in Interventional Radiology

**Course RC523 . . . . . S403B**

Mini-course: Image Interpretation Science - Perception in the  
Clinic

**Course RC525 . . . . . S103AB**

### 10:30 AM–12:00 PM

#### Scientific Papers Sessions

Physics (MR: Applications)

**Session SSK17 . . . . . E353B**

Physics (CT: Image Quality)

**Session SSK18 . . . . . E353C**

### 12:15–12:45 PM

#### Posters and Exhibits: Discussions

Physics Wednesday Poster Discussions

**Session PHS-WEA . . . . PH Community, Learning Center**

### 12:45–1:15 PM

#### Posters and Exhibits: Discussions

Physics Wednesday Poster Discussions

**Session PHS-WEB . . . . PH Community, Learning Center**

### 3:00–4:00 PM

#### Scientific Papers Sessions

Physics (Photon-Counting CT)

**Session SSM21 . . . . . S104B**

## THURSDAY, NOV 29, 2018

### Case of the Day

Physics Thursday Case of the Day

**Session ED013-TH . . . . . Case of Day, Learning Center**

## 8:30–10:00 AM

### Educational Courses

Advances in CT: Technologies, Applications, Operations - CT Systems

**Course RC621** . . . . . **S403A**

Advances in Cone Beam CT Acquisition and Reconstruction in Radiotherapy

**Course RC622** . . . . . **S504AB**

Advanced Ultrasound Technology and Applications

**Course RC623** . . . . . **S404CD**

Mini-course: Radiation Safety for Patients and Staff -

Emerging Advances in Patient Radiation Protection

**Course RC625** . . . . . **S105AB**

## 10:30 AM–12:00 PM

### Scientific Papers Sessions

Gastrointestinal (Advanced CT Techniques)

**Session SSQ08** . . . . . **E352**

Physics (CT: Imaging Performance)

**Session SSQ17** . . . . . **N229**

Physics (CT: Organ Dose)

**Session SSQ18** . . . . . **N228**

## 12:15–12:45 PM

### Posters and Exhibits: Discussions

Physics Thursday Poster Discussions

**Session PHS-THA** . . . . **PH Community, Learning Center**

## 12:45–1:15 PM

### Posters and Exhibits: Discussions

Physics Thursday Poster Discussions

**Session PHS-THB** . . . . **PH Community, Learning Center**

## 4:30–6:00 PM

### Educational Courses

Advances in CT: Technologies, Applications, Operations - CT Practice

**Course RC721** . . . . . **S105AB**

Machine Learning for Radiotherapy Applications

**Course RC722** . . . . . **N227B**

Diagnostic Imaging: Contrast Makes all the Difference (Interactive Session)

**Course RC723** . . . . . **E353B**

Mini-course: Radiation Safety for Patients and Staff - Practice Tools and Approaches for Radiation Safety

**Course RC725** . . . . . **S102CD**



## FRIDAY, NOV 30, 2018

### 8:30–10:00 AM

#### Educational Courses

CT Radiation Dose Reduction: Techniques and Clinical Implementation

**Course RC823** . . . . . **E253CD**

### 10:30 AM–12:00 PM

#### Scientific Papers Sessions

Physics (Nuclear Medicine, Quantitative Image Analysis in Imaging and Radiation Therapy)

**Session SST09** . . . . . **E264**

## Posters and Exhibits Discussions

*(CME is available when the author is present for discussion during the lunch period)*

## SUNDAY, NOV 25, 2018

### 12:30–1:00 PM

#### Scientific Posters

Detection of Calcification in the Breast Using Ultrasound Tomography: A Feasibility Study

**PH202-SD-SUA3** . . . . . **Station #3**

Dose of CT Protocols Acquired in Clinical Routine Using a Dual-Layer Detector CT Scanner

**PH203-SD-SUA4** . . . . . **Station #4**

MRI Projection Mapping for Conserving Surgery of Breast Cancer in the Operation Room: A Feasibility Study

**PH200-SD-SUA1** . . . . . **Station #1**

Reduction of Metal Artifacts During Digital Tomosynthesis Reconstruction from Projection-Based Material Decomposition for Arthroplasty: A Phantom Study

**PH201-SD-SUA2** . . . . . **Station #2**

The Feasibility of Combined Three-Dimensional Dynamic Region Growing with Level Set in Automatic Segmentation of Liver Tumor

**PH204-SD-SUA5** . . . . . **Station #5**

## 12:30–1:00 PM

### Education Exhibits

Technical Optimization of Contrast Enhanced Sequences in Central Nervous System: Making the Most for Every Single Gadolinium Drop

**PH119-ED-SUA6 . . . . . Station #6**

Utilizing the Exposure Index to Calculate Patient Specific Radiation Doses from Projection Radiography Images

**PH007-EB-SUA . . . . . Hardcopy Backboard**

## 1:00–1:30 PM

### Scientific Posters

3D Contrast-enhanced Ultrasound and 3D Ultrasound Molecular Imaging for Response Assessment in Models of Triple-negative Breast Cancer

**PH207-SD-SUB3 . . . . . Station #3**

CNN-Based Image Super-Resolution for CT Slice Thickness Reduction Using Paired CT Scans for Improving Robustness of Computer-Aided Nodule Detection System

**PH208-SD-SUB4 . . . . . Station #4**

Dual-Energy CT, MRI of Rectal Cancer : A Comparison of Diagnostic Performance in Metastatic Lymph Nodes

**PH205-SD-SUB1. . . . . Station #1**

Evaluation of Iterative Reconstruction Using 3D-Consolidated Signal Noise to Ratio

**PH206-SD-SUB2 . . . . . Station #2**

Vendor-Neutral, DICOM Viewer-Based, Graphical Image Exploration of Clinical Spectral CT Studies

**PH209-SD-SUB5 . . . . . Station #5**

## 1:00–1:30 PM

### Education Exhibits

Application of Deep Learning Object Detection for CT Scout Localizer-based Clinical Scan Region Planning

**PH008-EB-SUB . . . . . Hardcopy Backboard**

How to Optimize Your DTI Acquisition for Spinal Cord Assessment: Physical Basis and Technical Adjustments

**PH120-ED-SUB6. . . . . Station #6**

## MONDAY, NOV 26, 2018

## 12:15–12:45 PM

### Scientific Posters

A CT Protocol Management System for Reviewing and Version Tracking of CT Protocols from Multiple CT Vendors

**PH215-SD-MOA6 . . . . . Station #6**

Accuracy of Volume Measurements of Coronary Calcification at CT Using Model-Based Iterative Reconstruction: A Phantom Study

**PH212-SD-MOA3 . . . . . Station #3**

Breast Structural Noise Analysis of Narrow- and Wide-angle Tomosynthesis and Masking Risk Assessment for Mass Detection

**PH216-SD-MOA7 . . . . . Station #7**

Chemical Exchange Saturation Transfer MR Imaging for Mediastinal Masses: Phantom Study and Clinical Cases

**PH211-SD-MOA2. . . . . Station #2**

Eliminating Susceptibility Induced Hyperintensities in Ultra High Field T1w MPRAGE Brain Images

**PH213-SD-MOA4 . . . . . Station #4**

Medical Student Device Design for Interventional Radiology: Design of a Needle Stabilization Device for CT-Guided Procedures

**PH210-SD-MOA1. . . . . Station #1**

Potential of a New High Capacity X-Ray Tube to Enable Low-kV Contrast-Enhanced CT Imaging of Large Patients with Improved Image Quality: A Phantom Study

**PH214-SD-MOA5 . . . . . Station #5**

Use of KZ-Space in Multislice MRI for Sub-mm Through-Plane Resolution

**PH217-SD-MOA8. . . . . Station #8**

## **12:45–1:15 PM**

### **Scientific Posters**

Characterisation of Dynamic Nuclear Hyperpolarization by Hydrodynamics, Liquid-Surface Interaction and Liquid-to-Tissue Ratio

**PH223-SD-MOB6 . . . . . Station #6**

Comparison of Diagonal and Three-Scan Trace Diffusion Modes in Diffusion-Weighted Imaging of Bladder Cancer

**PH222-SD-MOB5 . . . . . Station #5**

Coronary Stent Imaging with Photon Counting CT: Can Dedicated Sharp Convolution Kernels Improve Image Quality?

**PH220-SD-MOB3 . . . . . Station #3**

Development a Software Which Assists Radiologists to Determine Optimal Contrast Material Administration Protocol at CT: Validation Study Using a Computer Simulation

**PH221-SD-MOB4 . . . . . Station #4**

Dynamic ADC Analysis of the Brain in the Supine and Upright Postures

**PH219-SD-MOB2 . . . . . Station #2**

Multimodal Anthropomorphic Breast Phantoms for Microwave Imaging (MWI), B-Mode Ultrasound, Mammography, Magnetic Resonance Imaging, and Computed Tomography

**PH224-SD-MOB7 . . . . . Station #7**

The Value of Shear Wave Elastography and Contrast Enhanced Ultrasound for Benign-Malignant Lymph Nodes Differentiation in Rabbits

**PH218-SD-MOB1. . . . . Station #1**

## **12:45–1:15 PM**

### **Education Exhibits**

Computer-Based Interactive X-Ray Simulation Tools for Radiology and Radiography Education

**PH001-EC-MOB . . . . . Custom Application Computer Demonstration**

Investigation into the Outliers in Body CT Radiation Dose as Determined by a Patient Size Dependent Threshold

**PH009-EB-MOB . . . . . Hardcopy Backboard**

The 10 Commandments of Artefact Reduction in Cardiac MRI

**PH121-ED-MOB8. . . . . Station #8**

## **TUESDAY, NOV 27, 2018**

### **12:15–12:45 PM**

#### **Scientific Posters**

A New 3D Tomographic Image Reconstruction Process: More Than 10-Fold Acceleration and Reduced Artifacts Compared to SART on Same Hardware

**PH226-SD-TUA2 . . . . . Station #2**

A Novel Direct-Conversion Detector with Variable Charge Gain

**PH229-SD-TUA8. . . . . Station #8**

A Study on the Correlation between Body Mass Index (BMI) and "Four Low" Coronary Artery CT Angiography

**PH228-SD-TUA6. . . . . Station #6**

Cone Beam Tomosynthesis (CBT): A New Approach for 3D Surgical Imaging

**PH231-SD-TUA7 . . . . . Station #7**

Deep Learning Approach for Image Denoising in Low-Dose CT

**PH225-SD-TUA1. . . . . Station #1**

Does Biopsy Influence Effectiveness of Radiomics in the Classification of Benign Lesions and Cancers on Breast MRI?

**PH230-SD-TUA9 . . . . . Station #9**

Whole Body Low-Dose CT-Study Combined With Model Based Iterative Reconstruction Algorithm for Follow-Up of Oncologic Patients: Image Quality and Dose Reduction

**PH227-SD-TUA5. . . . . Station #5**

## 12:15–12:45 PM

### Education Exhibits

Impact of Acoustic Radiation Force Impulse Imaging in Diagnosing Non-Surgical Complications After Liver Transplantation

**PH010-EB-TUA** . . . . . **Hardcopy Backboard**

New Concept of Pathological Diagnosis Support by Micro CT System: How Does CT Technology Change Pathologist's Workflow?

**PH122-ED-TUA10** . . . . . **Station #10**

Non-Enhanced and Non-Gated MR Angiography for Peripheral Arteries using Improved Acceleration-Selective Arterial Spin Labelling (iAccASL)

**PH012-EB-TUA** . . . . . **Hardcopy Backboard**

## 12:45–1:15 PM

### Scientific Posters

Application of Multimodal Imaging and Photothermal Therapy in HER-2 Positive Breast Cancer

**PH234-SD-TUB2** . . . . . **Station #2**

Combined Respiratory and Cardiac 3D Imaging with a Single-Sweep C-Arm Acquisition

**PH238-SD-TUB6** . . . . . **Station #6**

Comparison of Two Free-breathing Coronary Computed Tomography Angiography (CCTA) Protocols for Patients with Severe Cardiac Insufficiency

**PH236-SD-TUB4** . . . . . **Station #4**

Estimating Radiation Dose of Digital Tomosynthesis and in Comparison with Other Chest Examinations for Adult Patients of Wide Ranging Body Sizes

**PH235-SD-TUB3** . . . . . **Station #3**

Pelvic Diagnostic: Dose Assessment of CT vs. Conventional X-Ray in a Phantom Study considering different CT Protocols including Tin Filtering

**PH232-SD-TUB7** . . . . . **Station #7**

Reproducibility Analysis on Computer Aided Abnormality Detection with Convolutional Neural Net in Chest PA X-Ray Images within Short-term Period

**PH237-SD-TUB5** . . . . . **Station #5**

Suppression of Longitudinal Aliasing (Windmill) Artifact in MDCT/CBCT: Detector Cell Interlacing vs Focal Spot Flying

**PH239-SD-TUB8** . . . . . **Station #8**

Using Magnification for Increasing DR Spatial Resolution of Pediatric Extremities

**PH233-SD-TUB1** . . . . . **Station #1**

## WEDNESDAY, NOV 28, 2018

### 12:15–12:45 PM

#### Scientific Posters

Eye-lens Shielding in Cranial CT: Evaluation of Image Quality and Artifact Frequency

**PH243-SD-WEA4 . . . . . Station #4**

Fast-Frame-Rate Digital X-Ray Tube Based on Carbon-Nanotube Field-Emitters and Its Application to Cone-Beam Breast Computed Tomography for High-Resolution Imaging

**PH242-SD-WEA3 . . . . . Station #3**

Iodine Quantification in Photon-counting CT: Accuracy Based on Dose

**PH244-SD-WEA5 . . . . . Station #5**

Magnetization Transfer Helps to Evaluate the Curative Effect Before and After Treatment of Diabetic Nephropathy

**PH245-SD-WEA6 . . . . . Station #6**

Occupational Eye Lens Dose in Endoscopic Retrograde Cholangiopancreatography Using a Dedicated Eye Lens Dosimeter: A Phantom Study

**PH240-SD-WEA1 . . . . . Station #1**

System Performance Comparison of Ultra-High-Resolution Scans Using Two Clinically Available Multi-Detector CT Systems

**PH241-SD-WEA2 . . . . . Station #2**

### 12:45–1:15 PM

#### Scientific Posters

A Multi-Echo Stack-of-Stars UTE-Based Thoracic Dixon Imaging

**PH250-SD-WEB5 . . . . . Station #5**

Dose Reduction for Cerebral Fluoroscopic Angiography Procedures Using Advanced Noise Suppression

**PH247-SD-WEB2 . . . . . Station #2**

Maximizing Iodine Detectability Using Different Types of Multiple Energy Images from a Single Acquisition on a Photon-Counting-Detector CT System

**PH249-SD-WEB4 . . . . . Station #4**

Peristalsis MR Imaging in Direct Visualization of Physiological Intestinal Flow by Spin Labeling Technique

**PH246-SD-WEB1 . . . . . Station #1**

Task-based Assessment of Photon-counting CT Binned Images with Varying Patient Size and Imaging Mode

**PH248-SD-WEB3 . . . . . Station #3**

## 12:45–1:15 PM

### Education Exhibits

Handheld Ferromagnetic Detector Sensitivity and Unit Comparison

**PH013-EB-WEB. . . . . Hardcopy Backboard**

Low-Contrast Detectability (LCD) of Abdominal CT: Improvement of LCD by a Newly Developed Iterative Reconstruction Algorithm

**PH123-ED-WEB7. . . . . Station #7**

## THURSDAY, NOV 29, 2018

## 12:15–12:45 PM

### Scientific Posters

Absorbed and Effective Doses Evaluation in a Pediatric PET-CT Scan

**PH256-SD-THA6 . . . . . Station #6**

Comparison of Effective Dose and Image Quality of Different Helical and Cone-Beam CT Protocols, Including Tin Filtering, for Maxillofacial Imaging

**PH254-SD-THA4 . . . . . Station #4**

Development of Method of Dosimetric Indications Required by IEC 60601-2-54 Using MCNPX

**PH252-SD-THA2 . . . . . Station #2**

Effect of Iodinated Contrast Medium on Organ Dose at Coronary CT Angiography Using 100-kVp and 120-kVp Scans

**PH251-SD-THA1 . . . . . Station #1**

Effect of Obesity on Liver Lesion Detection at Standard and Reduced Radiation Exposure in an Anthropomorphic Phantom

**PH255-SD-THA5 . . . . . Station #5**

Patient-Specific Analysis of Organ Doses in Chest-Abdomen-Pelvis CT Examinations with Tube Current Modulation

**PH253-SD-THA3 . . . . . Station #3**

## 12:45–1:15 PM

### Scientific Posters

Coupled Multi-Bone Active Shape Model of Foot and Ankle

**PH261-SD-THB5 . . . . . Station #5**

Differences in Room Scatter Distribution by Body Region Being Imaged with a C-Arm Fluoroscope

**PH258-SD-THB2. . . . . Station #2**

Evaluation of Large Scale Patient Specific Dosimetry in Conventional Chest Imaging

**PH260-SD-THB4 . . . . . Station #4**

Exploration of Optimal ASIR-V Weight in Low-Dose Head Scan with 16cm Wide-Detector C

**PH259-SD-THB3. . . . . Station #3**

Radiation Dose Reduction in Oncologic Computed Tomography  
Follow Up: Evaluation and Advantages of a New Scan Protocol  
**PH257-SD-THB1 . . . . . Station #1**

**12:45–1:15 PM**

**Education Exhibits**

In Vivo Evaluation of Acute Sciatic Nerve Traction Injury and  
the Association with Sunderland Grading  
**PH011-EB-THB . . . . . Hardcopy Backboard**



# Education Exhibits

## SPACE NO. EXHIBIT TITLE

PH002-EB-X	Availability of the High Pitch Dual Source CT for the Chest Examination: Actual Surface Dose Measurement Using an OSL Dosimeter to Optimize Irradiation Parameters
PH003-EB-X	It Is Necessary to Measure the Degree to Which Scattered Radiation and Energy X-Ray Examinations Expose Staff, Including Those Performing Interventional Radiology?
PH004-EB-X	Evaluation of Eye Lens Doses in Interventional Radiology Staff: Where Should the Eye Dosimeter Be Optimally Placed?
PH005-EB-X	Carbon Dioxide Angiography: Optimization of Image Quality and Radiation Dose
PH006-EB-X	Fundamental Study on Real-Time Dose Management in Percutaneous Coronary Intervention
PH100-ED-X	Does Deep Learning Help in Diagnosis of Hyperacute Stroke in Noncontrast CT?
PH101-ED-X	The Phases of MR Velocimetry: Physics, Technique, and Clinical Applications of MR Phase Contrast Imaging
PH102-ED-X	How to Maximize Diagnostic Information in Coronary CT Angiography with Dual Energy Spectral Imaging
PH103-ED-X	Image Noise Characteristics of Second Generation Fast kVp Switching Dual Energy CT Improves Image Accuracy of Dual Energy CT
PH104-ED-X	Clinical Applications of Chemical Exchange Saturation Transfer (CEST) MRI
PH105-ED-X	Fetal Dosimetry in CT: A Primer
PH106-ED-X	Imaging Physiology of Contrast Agent: Difference in Pharmacokinetic and Signal Characteristics Between Gadolinium and Iodine Contrast Agent
PH107-ED-X	Easy Understanding of Theory and Image Characteristics of the Model-Based Iterative Reconstruction at CT for Radiologists: How Does It Work?

<b>PH108-ED-X</b>	Site, Age Group, and Model - Specific Radiation Dose Estimation for Radiograph, CT, and Nuclear Medicine Exams
<b>PH109-ED-X</b>	Sequential Subtraction Using One Volume Scan of 320 Row ADCT
<b>PH110-ED-X</b>	Possibility of Deep Learning Technique in Medical Imaging: Can Deep Learning Improve Image Quality?
<b>PH111-ED-X</b>	Real World Opened by State-Of-The-Art 2048-Matrix CT
<b>PH112-ED-X</b>	A Review of Photon Counting Computed Tomography and Its Clinical Applications
<b>PH113-ED-X</b>	Automated Grading Method for Diagnosis of Rheumatoid Arthritis in Ultrasonography
<b>PH114-ED-X</b>	Computer-Aided Detection of Bone Fractures Identification in Ultrasonography
<b>PH115-ED-X</b>	Electric Properties Tomography: A New Tool for Noninvasive Measurement of Tissue Electrical Conductivity
<b>PH116-ED-X</b>	Next Generation Single-Source Rapid kV Switching Dual-Energy CT: Advances and Advantages in Body Imaging
<b>PH117-ED-X</b>	Optimization Method of Hyper-Parameters in Convolutional Neural Network for Medical Image Application
<b>PH118-ED-X</b>	Imaging Physics Quality Management System for MRI



# INNOVATION FOR TOMORROW'S RADIOLOGY TODAY

**Visit the Machine  
Learning Showcase**

Sponsored by:



Don't miss this exciting centerpiece of the North Exhibit Hall! See the latest developments in ML and AI software and products. Plus, learn even more about this game-changing technology at the Machine Learning Theater featuring daily lunchtime presentations on the latest hot topics.



# WHAT'S THE BIG IDEA? *YOU TELL US.*



## Be a Presenter at RSNA 2019!

- Scientific Presentations
- Applied Science
- Quality Improvement Reports
- Education Exhibits

### EARN RECOGNITION

#### **Kuo York Chynn Neuroradiology Research Award: \$3,000**

The top scientific paper as selected by the Scientific Program Committee will earn this prestigious award.

#### **The RSNA Trainee Research Prize: \$1,000**

Up to 48 medical students, residents or fellows who submit expanded abstracts of their 2018 RSNA scientific presentation may receive a \$1,000 prize and certificate.

### VISIT [RSNA.ORG/ABSTRACTS](http://RSNA.ORG/ABSTRACTS) FOR COMPLETE GUIDELINES.

#### **Submit Online**

beginning January 2019 at [RSNA.org/Abstracts](http://RSNA.org/Abstracts) through Wednesday, April 10, 2019 NOON CT.

#### **Questions?**

Call 1-877-776-2227 (within U.S.)  
or 1-630-590-7774 (outside U.S.)

Includes courses in joint sponsorship with the American Association of Physicists in Medicine.

