

**CUTTING-EDGE RESEARCH HIGHLIGHTS**  
**RSNA 108<sup>th</sup> SCIENTIFIC ASSEMBLY AND ANNUAL MEETING**

More than 80 cutting-edge research papers on the topics of long COVID, photon-counting CT, AI & machine learning, and molecular imaging will be presented in the Learning Center Theater at RSNA 2022. Ten papers identified as newsworthy are highlighted below.

➤ Session Number: M1-STCE-2

**Large-Scale Deployment of Mammography AI Demonstrates Robust Categorization and Suggests Benefit of More Granularity Than Binary Triage Categories**

Monday, Nov. 28, 9:00:00 AM

In a group of more than half a million women, AI was able to reliably categorize patients using four cancer suspicion levels. The greater granularity provided by four categories will likely aid radiologists significantly more than a simple binary triage flag.

➤ Session Number: R3-STCE-2

**Longitudinal Assessment of Multi-Institutional Data Diversity in the Medical Imaging and Data Resource Center (MIDRC)**

Thursday, Dec. 1, 10:30:00 AM

The diversity of the primary medical imaging datasets in the curated public data commons at MIDRC has evolved over time as both the number of contributing institutions and overall number of subjects grow.

➤ Session Number: R3-STCE-3

**SevScore: An Ai-Based Quantitative Severity Metric for Machine Learning and Statistical Analysis of COVID-19 Disease, Risk Factors, and Clinical Characteristics**

Thursday, Dec. 1, 10:30:00 AM

Quantitatively understanding COVID-19 severity based on features extracted from a deep learning U-Net architecture can help predict outcomes and plan/prioritize care for patients (knowing their risk) to increase survival rates and positive outcomes.

➤ Session Number: R5A-STCE-1

**Use of 18F-florbetapir Brain PET/CT to Study the Impact of White Matter Hyperintensity on Amyloid Accumulation**

Thursday, Dec. 1, 12:15:00 PM

Patients with high white matter hyperintensity volume show faster amyloid deposition, although once a threshold of approximately 35cm is exceeded, amyloid accumulation decreases.

➤ Session Number: R5B-STCE-1

**Assessment of Aneurysms and Plaque in the Abdominal Aorta Using Deep Learning**

Thursday, Dec. 1, 12:45:00 PM

A high-performing abdominal aortic aneurysm (AAA) automated detector has been developed, and a strong statistical relationship between the presence of a AAA and the quantity of abdominal plaque has been observed.

➤ Session Number: S2-STCE-1

**Photon-Counting Cardiac CT - Initial Multicenter Clinical Experience**

Sunday, Nov. 27, 11/27/2022 10:30:00 AM

Photon-counting CT coronary angiography provides excellent image quality and contrast-to-noise ratio, especially for low and moderately high levels of coronary calcification.

➤ Session Number: T1-STCE-1

**Mammography AI in 147 Clinics Results in Increased Cancer Detection Rate**

Tuesday, Nov. 29, 9:00:00 AM

These initial results show that, directionally, radiologists are beginning to detect more cancers even early after the deployment of an AI tool that provides suspicion categories as well as CAD markings.

➤ Session Number: T5A-STCE-2

**Quantitative Chest CT Analysis of Patients with Post-COVID-19 Condition**

Tuesday, Nov. 29, 12:15:00 PM

Patients with post-COVID-19 condition (PCC) demonstrate a higher extent of post-COVID-19 parenchymal changes and impaired lung function, including lower DLCO (diffusing capacity for carbon monoxide), FVC (forced vital capacity) and FEV1 (forced expiratory volume) than asymptomatic participants. The PCC group had a significantly lower main bronchial airway area than the asymptomatic group.

➤ Session Number: T5A-STCE-3

**Migratory COVID-19 Pneumonia in B-cell Lymphoma Patients Receiving B-cell Depletion Therapies**

Tuesday, Nov. 29, 12:15:00 PM

COVID-19 patients with B-cell lymphoma who had recently received B-cell depleting agents may demonstrate migratory airspace opacities on serial CT with persistent COVID-19 symptoms, which could be interpreted as ongoing COVID-19 pneumonia related to prolonged viral shedding resulting from iatrogenic humoral immunodeficiency.

➤ Session Number: W3-STCE-2

**Sensitivity of Low-Field MRI for Multiple Sclerosis Lesion and Brain Atrophy**

Wednesday, Nov. 30, 10:30:00 AM

White matter lesions can be detected using portable MRI, although resolution limits sensitivity. Low-field measurements of thalamic volume correlated with disease severity and patient disability, replicating known MS biomarkers. Sequence optimization and super-resolution approaches can likely improve detection rates and brain atrophy assessment.

*Schedule subject to change. Please consult [RSNA 2022 Meeting Program](#) for latest information.*