

POW!

Tuesday
August 11, 2026
Day 2

CT-PROTOCOL OPTIMIZATION WORKSHOP

OPTIMIZE TODAY. EMPOWER TOMORROW.



C-TECC

CT Education and Collaboration Collective

WELCOME to Day 2



Visit our Website!

<https://ctecc.radiology.wisc.edu/>



CT-POW (Computed Tomography – Protocol Optimization Workshop)

Learning Objectives:

As a result of participation in this educational activity, members of the healthcare team will be able to:

1. Implement strategies and tools into their practice.
2. Identify strategies to minimize radiation dose while maintaining image quality.
3. Gain insights into advanced scanning techniques and workflow improvements that support the team.
4. Explain how protocol optimization impacts diagnostic accuracy and patient outcomes.



CT-POW (Computed Tomography – Protocol Optimization Workshop)

Accreditation and Credit Designation Statements



Accreditation Statement

In support of improving patient care, this activity has been planned and implemented by the University of Wisconsin–Madison ICEP and Epic. The University of Wisconsin–Madison ICEP is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

American Medical Association (AMA)

The University of Wisconsin–Madison ICEP designates this live activity for a maximum of 14.00 AMA PRA Category 1 Credit™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Medical Physicist – CAMPEP Accreditation

This activity has been approved by CAMPEP for 14.75 MPCEC credit hours.

ASRT-Approved Category A Continuing Education

Approved by the ASRT for ARRT Category A continuing education credit. The learners could earn up to 12.50.

Continuing Education Units

The University of Wisconsin–Madison ICEP, as a member of the University Professional & Continuing Education Association (UPCEA), authorizes this program for 1.40 continuing education units (CEUs) or 14.00 hours.

Policy on Disclosure

It is the policy of the University of Wisconsin–Madison Interprofessional Continuing Education Partnership (ICEP) to identify, mitigate, and disclose all relevant financial relationships with ineligible companies* held by the speakers/presenters, authors, planners, and other persons who may influence the content of this accredited continuing education (CE). In addition, speakers, presenters, and authors must disclose any planned discussion of unlabeled/unapproved uses of drugs or devices during their presentation.

For this accredited continuing education activity, all relevant financial relationships have been mitigated, and detailed disclosures are listed below:

None of the planners and presenters have relevant financial relationships with ineligible companies to disclose, except the following:

1. Giuseppe V. Toia MD, MS, Associate Professor, Department of Radiology

- Canon Medical Systems USA, Inc. (Independent Contractor – Consultant)

2. Martin Wagner Dr. sc. hum, Assistant Professor of Radiology and Medical Physics

- Canon Medical Systems USA, Inc. (Grant); Siemens Healthcare (Grant); HistoSonics Inc (Consultant)

3. Gregory Avey MD, Associate Professor of Radiology in Neuroradiology

- GE Healthcare (Consultant)

4. Prashant Nagpal MD, FSCCT, Professor of Radiology; Section Chief of Cardiovascular Imaging

- Moderna (Stock); GE Healthcare (Consultant); HeartFlow, Inc. (Independent Contractor); Canon Medical Systems USA, Inc. (Grant)

**Ineligible companies are those whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on, patients. The ACCME does not consider providers of clinical services directly to patients to be ineligible companies.*

Upcoming Sessions:



Martin Wagner
Dr.sc.hum

A Comprehensive Guide to Interventional CT: Technology, Workflow, and Dose Considerations

- Describe the use of Interventional CT and outline the typical procedural steps involved.
- Identify the various CT scanner options and explain key features essential for Interventional CT systems, including wide bore access, in-room control, and gantry tilt.
- Explain dose-related concepts in Interventional CT, including factors that influence operator scatter dose.
- Evaluate visualization options and explain the impact of image artifacts and visualization planes along the needle for accurate device guidance in Interventional CT.



Upcoming Sessions:



Ran Zhang PhD

CT Reconstruction: from Filtered Back Projection to Deep Learning

- Explain the fundamental principles of Filtered Back Projection (FBP) and describe its historical significance in CT image reconstruction.
- Identify the inherent limitations of FBP and explain how iterative reconstruction (IR) methods address these challenges.
- Explain the foundational concepts of Deep Learning Image Reconstruction (DLIR) and discuss its potential to further enhance image quality.



Upcoming Sessions:



Carrie Bartels RT(R)(CT)

Protocolling: from family physician to sub-specialty radiologist

- Describe the complete process of ordering a CT scan from initiation to completion, from the primary physician entering the order through post-scan.
- Explain the distinction between CT protocols as defined by the radiologist and technologist and those implemented on the CT scanner.
- Analyze different patient histories and CT orders to determine the most appropriate protocol selection.



Upcoming Sessions:



**Giuseppe V. Toia MD, MS &
Kelsey Schluter BS RT(R)(CT)**

CT Intervention: Hands on Biopsy LAB

- Identify patient positioning considerations for interventional procedures.
- Apply integrated tools for needle path planning using diagnostic CT Images
- Utilize the integrated laser for initial needle placement.
- Demonstrate hands on proficiency in navigating a needle to a target lesion within a phantom.



Upcoming Sessions:



Exploring the Limits of Scanner Capabilities LAB



**Martin Wagner Dr.sc.hum &
Aria Salyapongse MS**

- Compare the effects of different CT reconstruction methods on overall image quality.
- Measure quantitative image quality metrics.
- Explain the trade-off between noise and resolution in CT reconstruction algorithms.
- Evaluate vendor-claimed scanner specifications through hands on experiments.
- Analyze why many specifications cannot be achieved simultaneously in real-world use.



Upcoming Sessions:



Tim Szczykutowicz PhD, DABR
Meghan Lubner MD, FSAR
Rachel Bladorn BS RT(R)(CT)
Courtney Goetsch RT(R)(CT)

BAM!: Building and Modifying CT Protocols

- Describe the key components of a CT protocol and how each parameter influences image quality and patient dose.
- Construct a basic CT protocol for a common clinical indication using guided, step-by-step decision making.
- Adjust fundamental protocol parameters to accommodate differences in patient size, clinical question, patient presentation, or workflow needs.



Upcoming Sessions:



Giuseppe V. Toia MD, MS

Anatomy Crash Course: A CT Primer for Non-Radiologists

- Identify major structures and anatomic landmarks of the brain.
- Identify major structures and anatomic landmarks of the chest.
- Identify major structures and anatomic landmarks of the abdomen.
- Integrate clinical anatomy into approaches to radiology research.



Upcoming Sessions:



**Meghan Lubner MD, FSAR,
FACR**

Clinical Applications of CT in the Abdomen and Pelvis

- Explain why CT is the most appropriate modality for specific clinical indications.
- Describe how contrast phase, image thickness, and anatomical plane are tailored to visualize specific lesions and structures.
- Examine a range of clinical CT applications using representative case examples.



Upcoming Sessions:



Advantages of Photon Counting by Anatomy

- Evaluate high impact clinical applications of Photon-counting CT (PCCT) in Abdominal Imaging including solid organ and pelvis evaluations.
- Evaluate high impact clinical applications of PCCT in Neuro Imaging with emphasis on the head and neck.
- Evaluate high impact clinical applications of PCCT in Cardiovascular Imaging, including heart and major vascular structures.

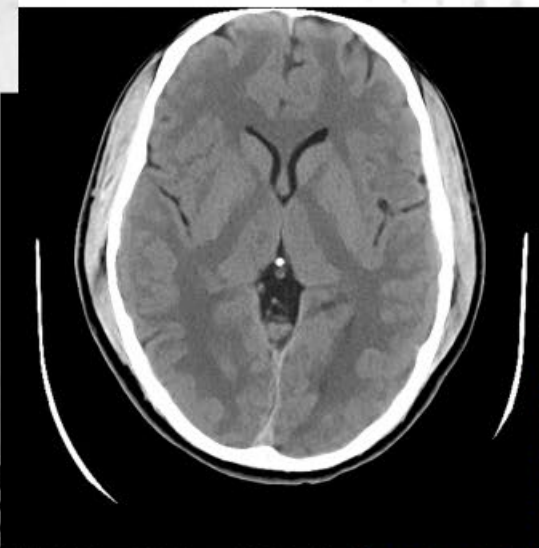
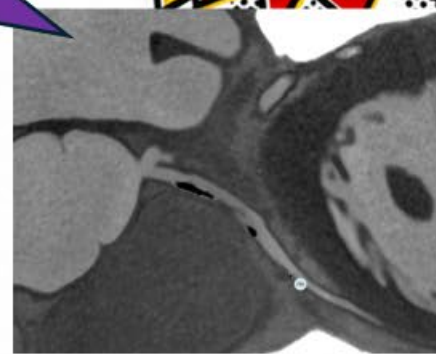
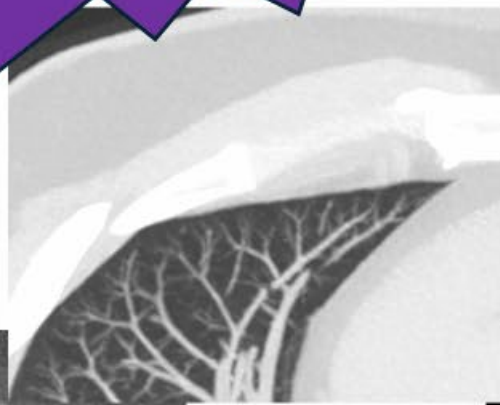
Meghan Lubner MD, FSAR, FACR;
Gregory D. Avey MD;
Prashant Nagpal MD FSCCT





UW is home to a
prototype Deep
Silicon Based CT
scanner from GE
Healthcare

POW!!



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Department of Radiology
University of Wisconsin School of Medicine and Public Health

Canon

CANON MEDICAL SYSTEMS USA, INC.



UW and Canon are collaborating on developing state-of-the-art imaging solutions that enhance clinical outcomes for patients worldwide.

◆ **Current Projects:**

- PiQE Reconstruction in Left Atrial Appendages.
- PiQE Reconstruction in Abdominal Imaging.
- Advancements in Interventional Imaging.

Thank you for joining!

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