



Department of
Medical Physics
UNIVERSITY OF WISCONSIN
SCHOOL OF MEDICINE AND PUBLIC HEALTH

Weekly Seminar Series

Monday, October 3 / 4:00PM



Mattison Flakus

Advancing the Utility of CT-Ventilation Biomarkers in Functional Avoidance Radiation Therapy

Lung functional avoidance radiation therapy is a treatment approach in which irradiation of high functioning lung is minimized with the goal of preserving post-therapy lung function. At UW-Madison, CT-derived biomarkers are used to represent local variation in lung ventilation. Our research focuses on further developing and understanding these CT-ventilation biomarkers. Specifically, their variability, robustness to image quality, and ability to aid prediction of pulmonary toxicities are investigated.



Antonia Wuschner

Modeling Radiation-Induced Changes in Perfusion for Improved Functional Avoidance Lung Cancer Therapy

Functional avoidance radiation therapy is a promising technique that shows potential to reduce radiation induced lung injury in non-small cell cancer patients. Execution of this technique requires development of comprehensive predictive models for RILI. Commonly this has been done using imaging modalities such as SPECT, which can provide both ventilation and perfusion information, or through the use of aerosols in CT, PET, and MRI. However, in order for these models to become integrated into clinical practice, they must be executable in current clinical workflow. For this reason, 4DCT is an exceptional option due to its highspatial resolution and routine use in treatment planning and is the preferred imaging modality used in our previous work at The University of Wisconsin- Madison (UW).



1325 HSLC / Webex
medphysics.wisc.edu/seminars

