

November 8, Hugo Aerts, Artificial Intelligence in Radiology



Medical imaging in oncology has traditionally been restricted to the diagnosis and staging of cancer. But technological advances in Artificial Intelligence (AI) are moving imaging modalities into the heart of patient care. Imaging can address a critical barrier in precision medicine as solid tumors can be spatial and temporal heterogeneous, and the standard approach to tumor sampling, often invasive needle biopsy, is unable to fully capture the spatial state of the tumor. Radiomics refers to the automatic quantification of this radiographic phenotype. Radiomic methods heavily rely on AI technologies, in specific engineered and deep-learning algorithms, to quantify phenotypic characteristics that can be used to develop non-invasive biomarkers. In this talk, Dr. Aerts will discuss recent developments from his group and collaborators performing research at the intersection of radiology, bioinformatics, and data science. Also, he will discuss recent work of building a computational image analysis system to extract a rich radiomics set and use these features to build radiomic signatures. The presentation will conclude with a discussion of future work on building integrative systems incorporating both molecular and phenotypic data to improve cancer therapies.

Objectives:

- Learn about the motivation and methodology of AI technologies in Radiology
- Learn about the existing and future potential role of radiologic AI with other –omics data for precision medicine.

[Session details...](#)

BIO:

Dr. Hugo Aerts is an Associate Professor at Harvard Medical School and Director of the Computational Imaging and Bioinformatics Laboratory (CIBL) at the Dana-Farber Cancer Institute. Dr. Aerts' group focuses on the development and application of advanced computational approaches applied to medical imaging data, pathology, and genomic data. Furthermore, he is a PI-member of the Quantitative Imaging Network (QIN) and NIH's Informatics Technology for Cancer Research (ITCR) initiatives.

SUMMARY:

Topic: Artificial Intelligence in Radiology

Speaker: Hugo Aerts, Ph.D., Dana Farber Cancer Center and Harvard Medical School

Date: Wednesday, November 8, 2017

Time: 11 AM – 12 PM ET

You are invited to listen to Dr. Aerts' presentation in the NCI Shady Grove Building on Medical Center Drive or via WebEx. **Dr. Aerts will give his presentation remotely via WebEx.**

Presentation: A screen cast of the presentation will be available for viewing after the event on the [NCI CBIIT Speaker Series YouTube Playlist](#) 

About the NCI CBIIT Speaker Series:

The National Cancer Institute (NCI) Center for Biomedical Informatics and Information Technology (CBIIT) Speaker Series presents talks from innovators in the research and informatics communities. The biweekly presentations allow thought leaders to share their work and discuss trends across a diverse set of domains and interests. The goals of the Speaker Series are: to share leading edge research; to inform the community of new tools, trends, and ideas; to inspire innovation; and to provide a forum from which new collaborations can begin. For additional information, including past speaker series presentations, visit the [CBIIT Speaker Series page](#).

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