

Data Studio

1:00–2:30pm, Wednesday, 19 May 2021

Videoconference:

<https://stanford.zoom.us/j/94176271679?pwd=UHRjdENYU1I1NXZTbHJXNXFLWjB1UT09>

Password: 423149

Investigator: Xuejun Gu (1)

Investigator: Rie von Eyben (1)

(1) Radiation Oncology

Title: Predictive Model for Recurrent Brain Metastases

Summary:

The Data Studio Workshop brings together a biomedical investigator with a group of experts for an in-depth session to solicit advice about statistical and study design issues that arise while planning or conducting a research project. This week, the investigator(s) will discuss the following project with the group.

Advances in therapy of brain metastases (BMs) have improved overall survival to the extent that a portion of these patients may live long enough to experience recurrent BMs (rBMs). Care guidelines for rBMs are not well-defined. The complexity of rBMs makes it a challenge to manage rBMs because the current clinical practice environment lacks proper tools to identify them and generate a patient-specific optimal treatment plan. To address these needs in rBMs management, we propose to develop, validate, and translate an AI-based rBMs (AirBMs) management platform for safe and effective care. The proposed platform consists of three AI-based computation modules to conquer identified challenges in rBMs management: 1) Detector: a conventional and AI-combined imaging processor for rBMs detection/differentiation; 2) Predictor: a recurrent-neural-network-based rBMs clinical outcome prediction using time-sequential multi-facet data; 3) Planner: an iterative clinical outcome-oriented plan optimizer. AirBMs will be developed on retrospective data and validated on prospective rBMs treatment. The prospective clinical validation will provide critical clinical knowledge and evidence as feedback to improve AirBMs performance. The ultimate goal of the project is to translate the AirBMs to routine clinical practice.

Questions:

Our questions concern the construction, validation, and testing of AirBMs.

Zoom Meeting Information

Join from PC, Mac, Linux, iOS or Android:

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For more information about Data Studio:

<http://med.stanford.edu/dbds/resources/data-studio.html>