**Neurosurgery Grand Rounds**

Course No. 22D16

Friday, December 17th, 2021

7:00am - 8:00am

Harold Hamm Diabetes Center

Quantitative Image Markers for Assisting Stroke Diagnosis and Prognosis Prediction

Presented by:

**Bin Zheng, PhD**

**Yuchen Qiu, PhD**

**Professional Practice Gaps:**. It is often difficult to diagnose severity of aneurysmal subarachnoid hemorrhages (aSAH) or acute ischemic strokes (AIS) and then predict patients’ prognosis by reading and interpreting brain CT images due to the lack of a quantitative assessment method and potentially large inter-reader variability, which may have negative impact on treatment of individual patients and clinical outcome.

**Learning Objectives:**  Upon completion of this session, participants will improve their competence and performance by being able to:

1. Demonstrate the feasibility of applying our in-house developed computer-aided detection and diagnosis (CAD) based tools that enable:

A. Automatically segment aSAH affected brain regions and generate sectoring cumulative volume of blood profile of AIS patients.

B. Compute and produce new quantitative image markers generated by the multi-feature fusion-based machine learning (ML) models to quantify disease severity and predict clinical outcome.

C. Provide clinicians visual-aid tools to view automated image segmentation results and easy-to-use control functions to correct the segmentation errors (if the error is visually detected).

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**Accommodation Statement:** For accommodations, please contact Emily Tally at 405-271-8001 or emily-tally@ouhsc.edu.

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| Course Contact  | Emily B. | Tally, MS | I have no financial relationships or affiliations with ineligible companies to disclose. |
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| Planning Member  | Panayiotis E.  | Pelargos, MD  | I have no financial relationships or affiliations with ineligible companies to disclose. |
| Presenter | Bin | Zheng, PhD  | I have no financial relationships or affiliations with ineligible companies to disclose. |
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