

CPD seminar series
College of Dental Medicine

1-

Date: Feb 29, 2024 (12-1 pm)

Title: REVOLUTIONIZING HEALTHCARE: The Transformative Role of AI in Intensive Care Units and Radiology.



MUHAMMAD E. H. CHOWDHURY received his Ph.D. degree from the University of Nottingham, U.K., in 2014. He worked as a Postdoctoral Research Fellow at the Sir Peter Mansfield Imaging Centre, University of Nottingham. He is currently working as an Assistant Professor and program coordinator of the Department of Electrical Engineering, Qatar University. He has filed several patents and published more than 180 peer-reviewed journal articles, 30+ conference papers, and several book chapters. His current research interests include biomedical instrumentation, signal processing, wearable sensors, medical image analysis, machine learning and computer vision, embedded system design, and simultaneous EEG/fMRI. He is currently running NPRP, UREP, and HSREP grants from Qatar National Research Fund (QNRF) and internal grants (IRCC and HIG) from Qatar University along with academic projects from HBKU and HMC. He is a Senior Member of IEEE, and a member of British Radiology, ISMRM, and HBM. He is serving as Guest Editor for Polymers, an Associate Editor for IEEE Access and a Topic Editor and Review Editor for Frontiers in Neuroscience. He has recently won the COVID-19 Dataset Award, AHS Award from HMC and National AI Competition awards for his contribution to the fight against COVID-19. His team is the gold-medalist in the 13th International Invention Fair in the Middle East (IIFME). He has been listed among the Top 2% of scientists in the World List, published by Stanford University.

Learning objectives are:

- i) Understand the fundamentals of early sepsis prediction using machine learning techniques, including the relevant data sources, feature selection, and model training.
- ii) Recognize multimodal segmentation techniques for brain tumor identification on MR imaging modalities, exploring the integration of various imaging data for accurate and comprehensive tumor delineation.
- iii) Understand the CASR-Net, an image processing-focused deep learning network for coronary artery segmentation in X-ray coronary angiograms.
- iv) Recognize the application of deep learning in computed tomography pulmonary angiography imaging,
- v) Discuss a novel deep learning framework for enhancing intima-media complex segmentation.