

SCHOOL OF SOCIAL SCIENCES



Department of Data Sciences and Analytics

ARTIFICIAL INTELLIGENCE FOR RADIOLOGICAL IMAGE ANALYSIS IN CANCER RESEARCH



22 Feb-2023, 3PM Onwards

RMC Charaka Hall (2nd floor)

MEET OUR SPEAKER



DR. LORENA ESCUDERO SÁNCHEZ
University of Cambridge, UK

ABOUT THE SPEAKER

Dr Lorena Escudero Sánchez is an interdisciplinary researcher, specialised in Artificial Intelligence (AI), Machine Learning (ML), Deep Learning (DL), Data Science, Image Analysis and software development, applying the scientific vision and experience gained as a Particle Physicist to develop advanced cancer imaging techniques that will make an impact on society.

Lorena is a Turing Fellow of The Alan Turing Institute, a Borysiewicz Interdisciplinary Fellow of the University of Cambridge, and a Rokos PDRA of Queens' College Cambridge.



Scan to join

Coordinator: Dr. Tapasi Ghosh



ARTIFICIAL INTELLIGENCE FOR RADIOLOGICAL IMAGE ANALYSIS IN CANCER RESEARCH

ABSTRACT

IMAGING IS ONE OF THE MAIN PILLARS OF CLINICAL PROTOCOLS FOR CANCER CARE THAT PROVIDES ESSENTIAL NON-INVASIVE BIOMARKERS FOR DETECTION, DIAGNOSIS AND RESPONSE ASSESSMENT. THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE (AI) TOOLS HAVE PROVEN POTENTIAL TO TRANSFORM THE ANALYSIS OF RADIOLOGICAL IMAGES, BY SIGNIFICANTLY REDUCING PROCESSING TIME, BY INCREASING THE REPRODUCIBILITY OF MEASUREMENTS AND BY IMPROVING THE SENSITIVITY OF TUMOUR DETECTION COMPARED TO THE STANDARD VISUAL INTERPRETATION, LEADING TO CANCER EARLY DETECTION. IN THIS TALK I WILL HIGHLIGHT SOME OF THE WORK DONE IN OUR RADIOGENOMICS AND QUANTITATIVE IMAGE ANALYSIS GROUP, COVERING METHODS FOR AUTOMATED TUMOUR SEGMENTATION, IN PARTICULAR IN OVARIAN CANCER, A HIGHLY COMPLEX, HETEROGENEOUS AND METASTATIC CANCER. I WILL ALSO PRESENT STUDIES ON RADIOMIC FEATURES, QUANTITATIVE MEASUREMENTS EXTRACTED DIRECTLY FROM IMAGES SUCH AS CT OR MR, AND EXAMPLES OF MACHINE LEARNING MODELS BASED ON THESE VARIABLES TO PREDICT RESPONSE TO CHEMOTHERAPY TREATMENT. FINALLY, WE WILL BRIEFLY SEE SOME EXAMPLES OF CLINICAL APPLICATIONS OF SUCH IMAGE ANALYSIS METHODS.

Student Coordinators

**Sri Abhirami B
99020 52134**

**Rishal U
91506 00401**

**Sandhya Jogale
93535 75741**