

Global Summit on Stroke

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Use of stroke model in pathophysiology and early diagnosis

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S troke remains the world's leading cause of death and disability for which no early diagnosis or effective therapies are available. The increasing prevalence of ischemic stroke and related health risks combined with the lack of early diagnosis and effective therapies, highlight the desperate need for continued preclinical research to understand the pathological mechanisms of this devastating disease which may enable the development of novel therapeutic targets. However, stroke induced early events and pathological mechanisms remain poorly understood. This is primarily due to lack of clinically relevant models that are highly reproducible as the pathophysiology of cerebral ischemia in animal models is modulated by numerous indirect or secondary factors including the species, type of blood vessels occluded, occlusion period and reperfusion time. We have now optimised murine models of stroke and neuronal degeneration and neurochemical changes in these models. These models show consistent pathological and neurochemical changes. In collaboration with the engineering team at the Leeds University, we have also developed bio photonic technologies using lasers with skin safe wavelengths for detection of biomarkers in stroke.

Biography

Sikha Saha is a Biomedical Scientist with a background in Physiology and Biochemistry. Her research interests include drug delivery, metabolic profiling and toxicity testing using a novel 3D in vitro BBB model and preclinical testing of novel drugs and diagnostic devices using in vivo models of Stroke and neurodegenerative diseases. Her work has led to more than 80 publications in peer review journals and international conferences. She is a Lead Inventor of a biomaker patent and a co-inventor of a patent with the formation of a spin-off company.

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