

## **Dr. Shivaprasad Shridhara**

**Abstract** | The Manufacturing Technology Centre (MTC) in Coventry is a leading UK research and innovation hub, driving the adoption of advanced manufacturing and inspection technologies across industries. With ageing infrastructure and increasing safety demands, novel NDT solutions are essential for efficient and reliable civil infrastructure inspection. This talk will explore the use of two such technologies - Ground Penetrating Radar (GPR) and X-ray Backscattered (XBS), which offer unique capabilities for assessing structural integrity in complex environments. The discussion will cover real-life challenges encountered in inspecting tunnels, bridges, and other critical infrastructures using these techniques. It will highlight practical applications, limitations, and future opportunities for enhancing inspection efficiency and decision-making.

**About the Speaker** | Dr. Shivaprasad Shridhara Bhat is a non-destructive testing (NDT) researcher with over a decade of experience spanning academic and industrial R&D. He is currently with the Metrology and NDT group at the Manufacturing Technology Centre (MTC) in Coventry, United Kingdom as a Senior Research Engineer. He earned his MS-PhD dual degree from the Indian Institute of Technology Madras (IIT Madras), where his research focused on developing advanced numerical models for ultrasonic wave propagation in polycrystalline materials. Following this, he joined the Ultrasonics and Non-destructive Testing (UNDT) group at the University of Bristol as a post-doctoral researcher. There, he investigated ultrasonic array imaging approaches for sizing non-sharp defects and their impact on structural integrity assessments. His work at MTC is centered on creating innovative inspection solutions for critical industries, including the built environment, nuclear, and aerospace sectors. His expertise spans a broad spectrum of NDT techniques, including conventional and nonlinear ultrasonics, array imaging, laser ultrasonics, and numerical modeling of elastic waves in complex media. He has published over 12 peer-reviewed journal articles and 22 conference publications.