The **Centre of Excellence for Semiconductors and Quantum Materials (CESQM)** at IUST is a multidisciplinary research hub dedicated to advancing semiconductor physics, device engineering, and quantum materials.

CESQM focuses on the design, modeling, and fabrication of next-generation electronic and optoelectronic devices, including nanoscale transistors, low-dimensional quantum wells, and topological insulators. By exploring phenomena such as carrier transport, spin dynamics, and light-matter interactions, the centre aims to overcome the fundamental scaling and efficiency limits of traditional silicon architectures.

Integrating advanced computational material design with state-of-line experimental characterization, CESQM bridges the gap between fundamental solid-state physics and practical nano-electronic applications. The centre is committed to fostering a vibrant ecosystem for training future researchers, driving indigenous technological innovation, and building strategic partnerships to support the future of semiconductor and quantum engineering.