

**MAST UPGRADE – COMPACT CONFINEMENT**S. Cowley<sup>1</sup><sup>1</sup> *Culham Centre for Fusion Energy, Abingdon, UK.**Corresponding author: Steve.Cowley@ccfe.ac.uk*

The Mega Amp Spherical Tokamak at Culham is being upgraded. The upgraded machine (MAST-U) will have superior performance and provide a demonstration of the viability of a spherical tokamak component facility. The 7.5MW of neutral beams will have sufficient current drive to sustain the discharge and demonstrate stable quasi-steady-state operation. The novel super-X divertor concept will be tested and optimized on MAST-U. If successful this concept will allow the operation of high power density fusion scale devices. I will discuss the features of the device, its aims and the research opportunities it presents.