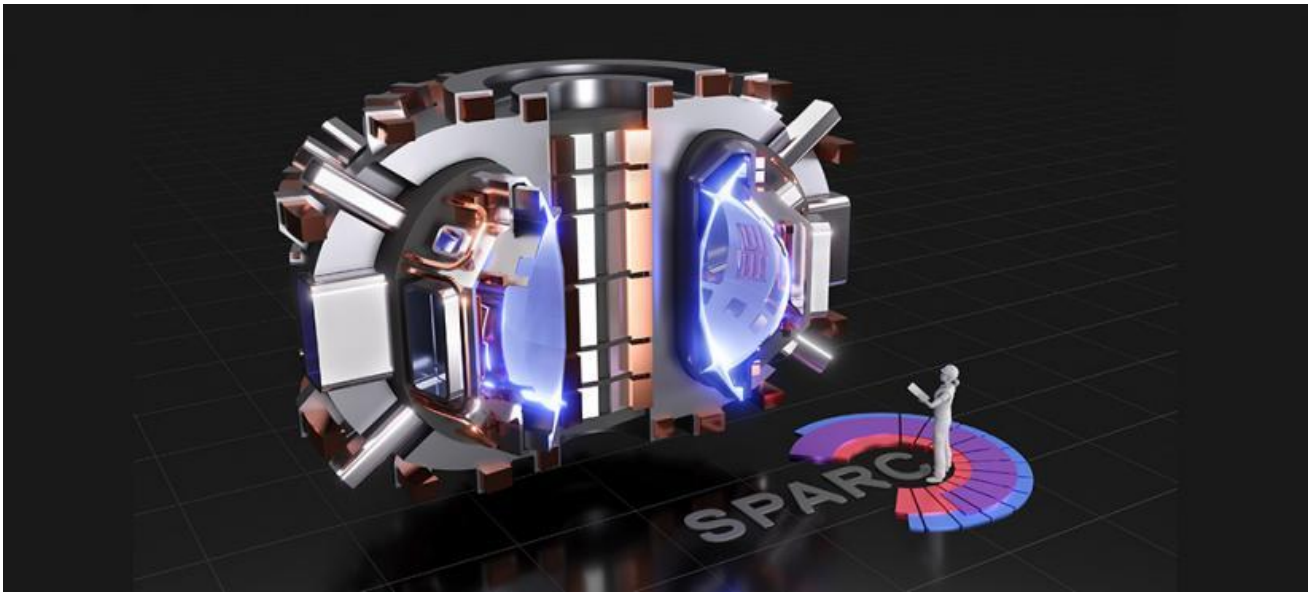

SPARC: fast particles and the fastest way to a burning plasma

by Dr. Roy Alexander Tinguely, MIT, Cambridge, USA

In September 2021, a large-bore 20 Tesla magnet made with high temperature superconductors was successfully tested at the Massachusetts Institute of Technology in collaboration with the private company Commonwealth Fusion Systems. This demonstrated the technology needed to build the toroidal magnetic field coils of the SPARC tokamak, a commercially relevant compact fusion device capable of generating over 100 MW of deuterium-tritium fusion power. This talk will introduce the high-field pathway to fusion, from SPARC attaining net energy in 2025 to the first fusion power plant ARC achieving net electricity in the early 2030s. The speaker will also provide highlights from his own research: fast particles - ions, neutrons, and electrons - in SPARC's self-heating, burning plasmas.

19th September 2022 @ 11.00 CEST, room U3-02