

Early Career Award



Wednesday
March 29, 2023
3:30 pm
Room 133 Chrysler

Prof. Jack Hare

Massachusetts Institute of Technology

Pulsed-Power-Driven Plasma Physics at MIT

In this talk I will outline the program of research which has been started at the new pulsed-power driven plasma physics group at MIT. I will discuss the motivation for our fundamental physics investigations in terms of the processes which enable energy to flow between different energy types within the plasma, and I will illustrate some of these processes with results from pulsed-power-driven experiments on magnetic reconnection and magnetized turbulence. I will show how these results lead to current and future research directions, such as radiatively cooled magnetic reconnection experiments on Z and the new PUFFIN long-pulse facility under construction at MIT.

About the Speaker: Jack D. Hare is the Gale Career Development (1929) assistant professor in the Department of Nuclear Science and Engineering at MIT. He graduated with First Class honours from the Natural Sciences Tripos at the University of Cambridge in 2011, followed by a Master's degree at Princeton University from the Graduate Program in Plasma Physics in 2013. He carried out his PhD research at Imperial College London, supervised by Prof. Sergey Lebedev on the 1.4 MA MAGPIE generator, graduating in 2017, followed by postdoctoral appointments at Imperial College (2017-2019 and 2020) and the Max Planck Institute for Plasma Physics in Garching, Germany (2019). He started his new research group based around the PUFFIN pulsed-power generator at MIT in 2021.