

# Introduction to CCFE

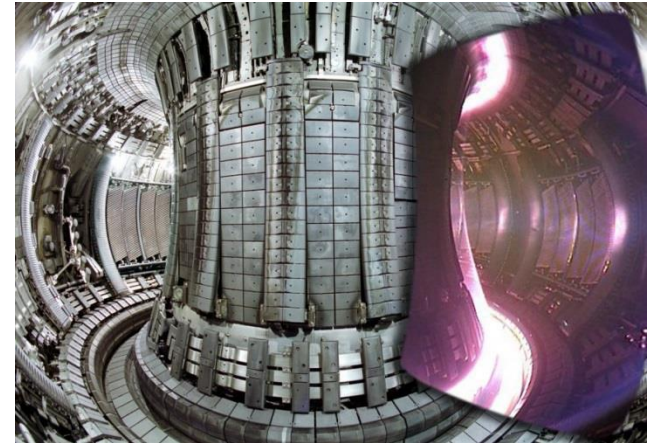


AMMW 2013 Workshop.

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Fusion research at CCFE is funded by EPSRC and EURATOM

- Culham Science Centre hosts two of the world's most successful tokamaks
  - CCFE operates JET, a major scientific project involving scientists from all of Europe
  - CCFE owns/operates MAST, the UK fusion programme
  - Large site infra-structure for power supplies and cooling systems
- Fusion research
  - Control high temperature plasma
  - Developing the technology for a sustainable new power source
  - Focus on support for ITER



Inside JET  
(right hand side showing plasma)



MAST spherical tokamak

- Challenges:
  - Experimental devices, sometime pushed to limits, unexpected events
  - Managing aging plant, with unique technical features
  - Cultural challenges – science sometimes prioritised over maintenance
  - Short-term targets can restrict longer-term preventive maintenance
- Tools
  - Technical control system for machine modifications
  - Well established QA and QC systems
  - Recorded history of faults and solutions
  - Extensive planned maintenance systems
- Targets
  - Develop a centrally coordinated refurbishment system
  - Prepare for the next deuterium-tritium campaign (after which maintenance will be difficult due to nuclear environment)