

FUNDAMENTALS

- ZERO RESISTANCE
- NO DISSIPATION
- PERSISTENT CURRENTS
- QUANTUM ENTANGLED STATES
- QUANTUM TUNNELING
- QUANTUM COHERENCE
- QUANTUM MATERIALS
- VORTEX PHASE
- CRITICAL CURRENTS
- CRITICAL FIELDS
- MAGNETIC FLUX TRAPPING
- LEVITATION

ENGINEERING

PHYSICS

CHEMISTRY



APPLICATIONS

- POWER TRANSMISSION
- ENERGY STORAGE
- SUPERCONDUCTING CIRCUITS
- SUPERCONDUCTING MAGNETS
- MRI PERSISTENT MAGNETS
- TOKOMAK TOROIDAL MAGNETS
- WIND TURBINES
- LARGE HADRON COLLIDER
- TRANSPORT
- QUANTUM TECHNOLOGIES
- HEALTHCARE
- RESEARCH

NOVEL QUANTUM MATERIALS
AND ELECTRONICS

EPSRC CDT
PHD TRAINING

NETZERO

SUPERCONDUCTIVITY CDT



SUPERCONDUCTING TECHNOLOGIES



PHD 4-YEAR STUDENSHIPS
FROM OCTOBER 2025

MATERIALS

PHYSICS

CHEMISTRY

PHYSICS

ENGINEERING

MATERIALS

TRAINING MODEL

- EXPERIMENTAL SKILLS
- THEORETICAL SKILLS
- LARGE SCALE FACILITIES

- PROBLEM SOLVING
- COMMUNICATION
- BUSINESS
- OUTREACH

AREAS OF RESEARCH

- DISCOVERY OF NOVEL SUPERCONDUCTORS
- FUNDAMENTAL PROPERTIES
- MATERIAL DESIGN AND MACHINE LEARNING

- TESTING OF NOVEL SUPERCONDUCTORS
- SUPERCONDUCTORS IN EXTREME CONDITIONS
- DESIGNING SUPERCONDUCTING COILS
- SUPERCONDUCTING DEVICES

SUPERCONDUCTIVITY CDT: <https://superconductivity-cdt.ac.uk/>

OXFORD SUPERCONDUCTIVITY: <https://oxfordsuperconductivity.web.ox.ac.uk/>

TO APPLY IN OXFORD : <https://www.ox.ac.uk/admissions/graduate/courses/superconductivity-enabling-transformative-technologies>

**OXFORD OPEN DAY
5 DECEMBER 2024**

**CDT ONLINE OPEN DAY
6 DECEMBER 2024**