Programme
6th IOP Superconductivity Summer School

Virtual Event
6-8, 13-15 July 2021

	Day 1: Tuesday 6th July 2021
	Chair
12:45 - 13:00	**Welcome and Introduction.** Dr. Ziad Melhem, Oxford Quantum Solutions Ltd., Oxford, UK ziad.melhem@oxqsol.com
13:00 -13:45	**Superconducting Fundamentals and Theory** Prof. Stephen Blundell, Clarendon Laboratory, Oxford University, Oxford, UK stephen.blundell@physics.ox.ac.uk
13:45 -14:15	**Work on superconductivity in the Oxford Materials Department: trying to translate basic science into practical solutions** Prof. Chris Grovenor, Materials, Oxford University, Oxford, UK chris.grovenor@materials.ox.ac.uk
14:15 -14:30	**Tea/coffee break and virtual network**
	Chair
14:30 -15:15	**Superconducting Materials I** *The basic principles* Prof. Susie Speller, Materials department, Oxford, Oxford University susannah.speller@materials.ox.ac.uk
15:15 -16:00	**Superconducting Materials II** *Bulk superconductors – an introduction* Dr John Durrell, Engineering Department, Cambridge University, Cambridge, UK jhd25@cam.ac.uk
16:00 -16:15	**Tea/coffee break and virtual network**
16:15 -17:00	**Students and Early career Presentation – Session 1** Chair: Prof. Susie Speller
17:00 -17:30	**Invited Special Topic Talk 1** **Materials Research at European Magnet Field laboratories (EMFL)** **Prof. Amalia Patane, Nottingham University, Nottingham, UK** **Amalia.patane@nottingham.ac.uk**
17:30 - 17:50	**Panel Discussion 1**
17:50	**Close of Day 1**

	Day 2: Wednesday 7th July 2021
	Chair
12:45 - 13:30	**Superconducting Materials III** *Electronic and superconducting properties of iron-based superconductors* **Prof. Amalia Coldea, Clarendon Laboratory, Oxford University, Oxford, UK** **amalia.coldea@physics.ox.ac.uk**
13:30 - 14:15	**Superconducting Materials IV** *Synthesis, chemistry and physics of layered chalcogenide and iron-based superconductors* Prof. Simon Clarke, Chemistry Department, Oxford University, Oxford, UK simon.clarke@chem.ox.ac.uk
14:15-14:30	**Tea/coffee break and virtual network**
	Chair
14:30-15:15	**Superconducting materials in conductor forms** Prof. David Larbalestier, ASC-NHMFL, Florida State University, Tallahassee, USA larbalestier@asc.magnet.fsu.edu
15:15-16:00	**Superconducting Applications** Dr Martin Wilson, Consultant, Oxford, UK martnwil@gmail.com
16:00-14:15	**Tea/coffee break and virtual network**
16:15 -17:00	**Students and Early Career Presentation – Session 2** Chair: Prof. Susie Speller
17:00 -17:30	**Invited Special Topic Talk 2** **The design and optimization of superconducting magnets from the viewpoint of an engineer and an operations perspective.** **Dr Bruce Strauss, IEEE-CSC, USA** **nbti@aol.com**
17:30 - 17:50	**Panel Discussion 2**
17:50	**Close Day 2**

	Day 3: Thursday 8th July 2021
	Chair
12:45-13:30	**Superconducting circuits for quantum information processing.** Prof. Yuri Pashkin, Department of Physics, Lancaster University, Lancaster, UK y.pashkin@lancaster.ac.uk
13:30:14:15	**Superconducting Detectors and Electronics** Dr Alessandro Casaburi, University of Glasgow, School of Engineering, Electronic and Nanoscale Engineering Division Alessandro.Casaburi@glasgow.ac.uk
14:15-14:30	**Tea/coffee break and virtual network**
	Chair
14:30-15:15	**Superconducting and Quantum Technologies at Oxford Instruments** Matt Martin, Oxford Instruments NanoScience, Oxford, UK **matt.martin@oxinst.com**
15:15-16:00	**Technology Roadmap for Superconductor Electronics** Prof. D. Scott Holmes, IEEE Council on Superconductivity (CSC) -International Roadmap for Devices and Systems (IRDS) **d.scott.holmes@ieee.org**
16:00-16:15	**Tea/coffee break and virtual network**
16:15 -17:00	**Students and Early Career Presentation – Session 3** Chair: Prof Yuri Pashkin
17:00 -17:30	**Invited Special Topic Talk 3 –** **Design and Engineering of Superconducting Qubits** Kyle Serniak, MIT Lincoln Laboratory, MIT, Cambridge, US kyle.serniak@ll.mit.edu
17:30 - 17:50	**Panel Discussion 3**
17:50	**Close Day 3**

	Day 4: Tuesday 13th July 2021
	Chair
12:45-13:30	**Measurements Techniques for Superconducting Materials and Applications** Prof. Damian Hampshire, Physics Department, Durham University, Durham, UK d.p.hampshire@durham.ac.uk
13:30:14:15	**Cryogenics for Superconducting Applications** Mr. Charles Monroe, Monroe Brothers Ltd, UK **cmonroe@monroebrothers.co.uk**
14:15 -14:30	**Tea/coffee break and virtual network**
14:30 -15:15	**Finite Element Modelling of Superconducting Applications** **Mr. Chris Riley,** SIMULIA Opera, Dassault Systèmes, Oxford, UK **Christopher.RILEY@3ds.com**
15:15 -16:00	**Superconducting Applications – Cables** Dr Joe Minervini, MIT Plasma Science and Fusion Center, Cambridge USA minervini@psfc.mit.edu
16:00 - 16:15	**Tea/coffee break and virtual network**
16:15 -17:00	**Students and Early Career Presentation – Session 4** Chair: Dr Mark Ainslie
17:00 -17:30	**Invited Special Topic Talk 4.** **The US Magnet Development Program – Progress and Roadmap** Dr Soren Prestemon, Lawrence Berkey National Laboratory, USA **soprestemon@lbl.gov**
17:30 - 17:50	**Panel Discussion 4** Chair: Dr Mark Ainslie
17:50	**Close Day 4**

	Day 5: Wednesday 14th July 2021
12:45-13:30	**Superconducting Technology for High Energy Physics and Accelerators** Dr Luca Bottura, CERN, Geneva, Switzerland **luca.bottura@cern.ch**
13:30:14:15	**Design principles of superconducting magnets – Part** I Dr Martin Wilson, Consultant, Oxford, UK martnwil@gmail.com
14:15 -14:30	**Tea/coffee break and virtual network**
14:30 -15:15	**HTS conductors R&D and Characterization for Applications** Prof. Carmine Senatore, Department of Quantum Matter Physics (DQMP), Université de Genève, Switzerland **Carmine.Senatore@unige.ch**
15:15 -16:00	**Superconducting Technology for Fusion** Dr Joe Minervini, MIT Plasma Science and Fusion Center, Cambridge USA minervini@psfc.mit.edu
16:00 - 16:15	**Tea/coffee break and virtual network**
16:15 -17:00	**Students and Early Career Presentation – Session 5** Chair: Prof Yuri Pashkin
17:00- 17:30	**Invited Special Talk Topic 5 - TBC**
17:30 – 17:50	**Panel Discussion 5**
17:50	**Close Day 5**

	Day 6: Thursday 15th July 2021
12:45-13:30	**Design principles of superconducting magnets – Part II** Dr Martin Wilson, Consultant, Oxford, UK martnwil@gmail.com
13:30 -14:15	**Superconducting Electrical Machines** Dr Mark Ainslie, Department of Engineering, Cambridge University, Cambridge, UK mark.ainslie@eng.cam.ac.uk
14:15 -14:30	**Tea/coffee break and virtual network**
14:30 -15:15	**Superconducting Applications – MRI** Dr M'hamed Lakrimi, Siemens Magnet Technology, Oxford, UK mhamed.lakrimi@siemens.com
15:15 - 16:00	**EcoSwing, the world's first full-scale superconducting generator field-tested in a wind turbine.** Dr Marc Dhallé, University of Twente, NL m.m.j.dhalle@utwente.nl
16:00-16:15	**Tea/coffee break and virtual network**
16:15 -17:00	**Students and Early Career Presentation – Session 6** Chair: Dr Mark Ainslie
17:00 -17:30	**Invited Special Topic Talk 6 - TBC**
17:30 - 17:50	**Panel Discussion 6**
17:50-18:00	**Closing Remarks** Dr Ziad Melhem, Oxford Quantum Solutions Ltd., Oxford, UK ziad.melhem@oxqsol.com
18:00	**Close Day 6**