



3rd Superconductivity Summer School

9–11 July 2014

Wolfson College, Oxford, UK

Organised by the IOP Superconductivity Group in collaboration with
The European Society for Applied Superconductivity (ESAS)

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Superconductivity Group

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<http://super2014.iopconfs.org>



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Enquiries

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Conference chair

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Disclaimer

The Institute of Physics, Wolfson College, Oxford and their approved representatives cannot take responsibility for any accident, loss or damage to participants or to their property during the conference.



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Location

The conference will be held at the University of Oxford. The lectures will be held in the Leonard Wolfson Auditorium, within the Academic Wing at Wolfson College. On-site accommodation for residential delegates is located at Wolfson College. A map can be found at the back of this handbook. For further information on how to get to Wolfson College visit <https://www.wolfson.ox.ac.uk/how-get-here>

Venue

Leonard Wolfson Auditorium
Wolfson College
University of Oxford
Linton Road
Oxford, OX2 6UD
Tel: +44 (0)1865 274100
www.wolfson.ox.ac.uk

Travel

Oxford is about 60 miles (90 kms) northwest of London and is well served by road and rail networks that give fast and direct access locally, nationally and from Europe.

Wolfson College is located in North Oxford, off Banbury Road, at the end of Linton Road. It is well served by local bus services, though some routes do not run on Sundays. Ask for the "St. Margaret's Road" stop.

A location map for Wolfson College can be found online at <http://www.wolfson.ox.ac.uk/physical/>

By air

Oxford is easy to reach from the following major airports:

[Gatwick Airport](#) and [Heathrow Airport](#)

London Heathrow and Gatwick airports are linked to Oxford by [The Airline coach service](#), which operates a direct frequent service twenty-four hours a day (tel: +44 (0)1865 785400).

[Stansted Airport](#)

London Stansted airport is linked to Oxford by the [National Express 757 coach service](#), running every two hours (tel: +44 (0)8705 747777). You should also visit [National Express website](#) for services to Luton Airport.

All of these services terminate at the Oxford Bus Station at Gloucester Green.

[Birmingham International Airport](#)

There is a direct train from Birmingham International to Oxford. Visit the [National Rail Enquiries website](#) for timetables and fares.

A list of taxi companies, many of which offer a bespoke airport pick-up service, can be found on the Tourist Information Centre website: <http://www.visitoxford.org/information/visitor-information-centre.aspx>



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By rail

A direct service operates between Oxford and London Paddington (approximately every 30 minutes), and between Oxford and Birmingham New Street via Banbury and Coventry. Other services operate from the north via Birmingham New Street; from the south via Reading; and from the west via Didcot or Reading. For information contact [National Rail Enquiries](#) (tel: +44 (0)8457 484950).

From Oxford Rail Station:

Bus number 14/14A to St Margaret; single fare £2 approx.; does NOT run on Sundays.

From the Coach Station:

Walk over to Magdalen Street, Bus Stop 50 outside Debenhams store. All number 2 buses, also 500 Water Eaton Park & Ride; single fare £2 approx.

There are taxi ranks at both the rail and coach stations; approximate fare £6 - £8.

By car

Oxford is connected to London, the M25 and the Midlands by the M40 motorway. Junctions 8 and 9 link directly to the city. The Oxford ring road provides direct access to the south and west coast ports of Southampton, Portsmouth and Bristol via the A34.

Birmingham-Oxford: M40-A34

Bristol-Oxford: M32-M4-A34

Cardiff-Oxford: M4-A420

Edinburgh-Oxford: A74(M)-A74-M6-M42-M40-A34

Glasgow-Oxford: M74-A74(M)-M6-M42-M40-A34

London-Oxford: A40-M40-A40

Manchester-Oxford: M56-M6-M42-M40-A34

Newcastle-Oxford: A1-A1(M)-M1-A43-M40-A34

Nottingham-Oxford: M1-A43-M40-A34

Car parking

A limited quantity of car parking is available for conference delegates on-site at Wolfson College, free of charge, by prior arrangement only. Please contact Dawn Stewart – dawn.stewart@iop.org

Visas

Citizens of the European Union do not need a visa to enter Britain. If you are from any other country, please find out about visa requirements before your travel by visiting <http://ukvisas.gov.uk>

Oxford taxi companies

001 Taxis - +44 01865 240 000

City Taxis - +44 01865 794 000

Radio Taxis - +44 01865 242 424

ABC Taxis - +44 01865 770 077

Royal Cars - +44 01865 777 333



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Registration

Registration will take place from Wednesday 9 July to Friday 11 July in the Auditorium Foyer. Times are as follows:

Date	Times	Location
Wednesday 9 July	08:00-17:30	Auditorium Foyer
Thursday 10 July	08:00-14:00	Auditorium Foyer
Friday 11 July	08.30-17:45	Auditorium Foyer

Please note that during lunch times the registration desk may be unmanned for a short period of time.

On arrival, each participant will receive a delegate pack containing a pen and pad, a programme and a lapel badge. Please wear your badge at all times because this will help with security and enable you to identify your fellow delegates. Replacement badges can be issued at the registration desk. On your departure, please return your badge to the registration desk so that it can be recycled.

Messages

A message board will be placed near the registration desk. Participants should check the board for messages as an attempt to locate participants will only be made in the case of an emergency. During registration times, messages can be left by email to dawn.stewart@iop.org or by telephone to +44 (0)7917 1811 83

Venue facilities

Internet

WiFi access is available. A username and password, valid for the duration of the Summer School will be issued to you at the registration desk, or from the Lodge Reception for residential delegates arriving before the start of the conference. Each username/password is effective for a single device: additional usernames/passwords are available on request from the registration desk or Wolfson Conference Office, should you have multiple devices or require a replacement.

Cloakroom

There will be a cloakroom available for luggage storage, but please note that these areas are not secure. All goods left are at the owner's risk and neither the IOP nor Wolfson College accept any liability for any loss or damage to personal goods.

Public Telephones

There are telephone boxes with a taxi phone and University network phone respectively located at the rear of the Lodge. Each bedroom has a telephone which will receive incoming calls, and connected to the University network for outgoing calls. Should you require use of a landline to make an external call, the Wolfson Conference office will be pleased to assist.

Prayer room

Anyone requiring the use of a prayer room should make a request at the IOP registration desk.

Banking facilities

The nearest ATM is available in Summertown shopping district, which is situated about 10 minutes' walk from Wolfson College.



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Catering

Refreshments, lunch and dinner are included in the registration fee and are served at set times during the conference programme. Refreshments will take place in Auditorium Foyer, lunches in the Haldane Room. Wednesday evening BBQ on the Harbour Lawn (or Haldane Room if wet) and Thursday's Gala dinner in The Hall. Breakfast for residential delegates will take place from 07:30 to 09:00 in The Hall.

Wednesday 9 July	Times	Location
Breakfast (<i>residential delegates only</i>)	07:30 – 09:00	The Hall
Morning refreshments	10:30 – 11:00	Auditorium Foyer
Lunch	12:30 – 13:30	Haldane Room
Afternoon refreshments	14:30 – 15:00	Auditorium Foyer
BBQ	18:00	Harbour Lawn

Thursday 10 July	Times	Location
Breakfast (<i>residential delegates only</i>)	07:30 – 09:00	The Hall
Morning refreshments	10:30 – 11:00	Auditorium Foyer
Lunch	13:00 – 13:45	Haldane Room
Drinks Reception	18:15 – 19:00	Private Dining Suite
Gala Conference Dinner	19:00	The Hall

Friday 11 July	Times	Location
Breakfast (<i>residential delegates only</i>)	07:30 – 09:00	The Hall
Morning refreshments	11:00 – 11:30	Auditorium Foyer
Lunch	12:30 – 13:30	Haldane Room
Afternoon refreshments	15:00 – 15:30	Auditorium Foyer

If you would like your guest to join you at Gala conference Dinner on Thursday 10 July, the cost is £45.00 +VAT per person. Tickets can be purchased by e-mail to dawn.stewart@iop.org

Dietary requirements

Participants with special dietary requirements are asked to notify the conference office by e-mail prior to their arrival if they have not already done so when registering. Those with special dietary requirements other than vegetarian are asked to make themselves known to the catering team. It will not be possible to provide an alternative menu unless prior notification has been received.

We are aware that nut allergies in particular present a serious problem to some people. Wolfson College can provide details of the ingredients of any particular dish, but cannot provide assurances that the food has not been cross contaminated with traces of nuts during ingredient processing at the manufacturer's site or during food preparation/service on site. For these reasons, we regret we are unable to provide guarantees that any of the food we serve is free from nuts or trace elements. Please e-mail dawn.stewart@iop.org if you have any queries.



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Social programme

BBQ – Wednesday 9 July

Delegates are invited to attend a BBQ taking place at 18:00 on the Harbour Lawn, or in Haldane room if wet. This BBQ is included in the registration fee. If you are unable to attend can you please notify Dawn Stewart by email: dawn.stewart@iop.org

Trip to Oxford Instruments - Thursday 10 July

Delegates who have booked online to attend this trip will require photographic identification to gain access. Please note Oxford Instruments is a secure site and places are limited. The coach will depart from the Wolfson College forecourt at 13:45 and will return to Wolfson College at 16:30.

Gala Conference Dinner – Thursday 10 July

The conference dinner will take place in Wolfson College Hall. Dinner will commence at 19.00, preceded by a drinks reception at 18:15. The conference dinner is included within the registration fee. If you are unable to attend the dinner can you please notify Dawn Stewart by email: dawn.stewart@iop.org

Presenter's information

The lecture auditorium is equipped with full audio-visual facilities, easily operated from the lectern console. Speakers presenting material other than PowerPoint should advise the specifics of their presentations to Dawn Stewart dawn.stewart@iop.org before the conference.

If presenting from a Macintosh computer, please bring a VGA cable with you. You are reminded that the UK has 3-pin sockets so, if you require a plug adaptor, you should also bring this with you.

Presentations

Speakers are requested to bring their presentations on a USB memory stick in either Office 2007 or .pdf format and preload them onto the PC located in the lecture auditorium. Speakers should save their presentation into the appropriate pre-named session folders pre-set on the desktop, identifying their file by speaker's surname and initial. To optimise compatibility, particularly for the inclusion of multimedia components, PowerPoint presentations should have been saved using PowerPoint's "Package for CD" facility. Direct connection of personal laptops (with set up in the break prior to the corresponding session) is an acceptable but not preferred alternative.

The lecture auditorium is reasonably large, and speakers should use a minimum 15-point font size in PowerPoint slides to ensure legibility.

Presenters are asked to prepare their talks to match the allocated times which will be rigidly enforced.

Safety and security

Personal property

Wolfson College and the Institute of Physics accept no responsibility for the loss of, or damage to, personal property. Visitors are advised to keep personal possessions with them at all times.



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Evacuation policy

The procedure on hearing the fire alarm, or on discovering a fire, is to vacate the building by the quickest and safest designated route, and report to the designated assembly point. Delegates should not attempt to use fire safety equipment to fight the fire themselves - it is installed for use by trained members of the college staff who will attend in the event of an alarm. Delegates should not re-enter the building until the Fire Service or College staff confirms that it is safe to do so.

First aid

If an ambulance is required whilst you are in the college, dial 999 or contact the Lodge for assistance: +44 (0)1865 274100. The nearest Accident & Emergency Department is John Radcliffe Hospital.

Security

Lodge staff are on duty 24-hours a day, 7-days a week. Should an accident, theft or other incident occur on the College premises, it must be reported without delay to the Lodge Reception.

Smoking

In accordance with government legislation smoking is permitted only in the outdoor areas designated by the provision of cigarette disposal units. Smoking is NOT permitted in any indoor area, nor on balconies.

Behavior and conduct

The Institute of Physics and Wolfson College, reserve the right to charge in full any damage to the facilities. Considerate behaviour is expected of and shall be shown to, delegates at all times

General information

Britain's currency - pound sterling (£) - see www.xe.com for currency converters.

Value Added Tax (VAT) - is charged on all purchases currently at a rate of 20%,; people travelling to the UK on business may be entitled to reclaim the tax charged on event expenses. See website for further information: <http://www.hmrc.gov.uk/vat/>

Electricity

British electrical standards are 50Hz 230 volts, so some North American and European electrical devices may require converters; all will require plug adaptors. Please ensure that you bring your own adaptor with you to the conference, as electrical safety regulation forbids the College from supplying adaptors.

Accommodation

Wolfson College
Linton Road
Oxford, OX2 6UD
Tel: +44 (01865) 274100

En-suite single accommodation for the overnights of 9th and 10th July is included in the 'residential' registration fee. If you have any special accommodation requirements, e-mail dawn.stewart@iop.org

Accommodation is located in C, M and CM Blocks, arranged over two floors and with no access to a lift. Therefore, if you require a ground floor room please contact Dawn Stewart - dawn.stewart@iop.org



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Bedrooms

Each room is equipped with bed linen, towels, small toiletry items on arrival, and WIFI internet access. There is a communal kitchen/lounge within each set (C Block) or at the end of each corridor (M and CM Blocks). Fitted with appliances (but not cooking equipment or tableware), these are available for residential delegates. Iron and ironing boards are supplied, but you are advised to bring your own hairdryer, clock, radio, adaptor, personal toiletries.

Please note that we do NOT supply adaptors plugs and there is NO television

Arrival

Check-in for all days is from **14:00 at the Lodge Reception Desk**, with a luggage store facility for early arrivals. Please notify Dawn Stewart dawn.stewart@iop.org if you anticipate arriving after 23:00, so that we can alert the Night Porter.

Departure

Check-out is by **10:00 prompt on 11 July**. Keys should be returned to the Lodge Reception Desk. Late departures cannot be accommodated.

Breakfast

Breakfast is included in the 'residential' registration fee. Breakfast will be served in the Hall from 07:30 – 09:00 with cooked breakfast and breakfast buffet spread on alternating mornings.

Internet access

You will need a username and password to access the Wi-Fi. This can be collected from the Lodge Reception Desk on arrival.

Smoking

The no-smoking rule is strictly enforced within all areas of the accommodation, including bedrooms, corridors, kitchen/lounges, on balconies and outside windows.

Additional charges

A charge will be levied to cover additional cleaning costs if required to ensure the room is acceptable for the next guest. A charge of £25 will be levied for lost bedrooms keys.

Shops

The Summertown shopping area is located approximately 10 minutes' walk from the college, and features a full range of shops and other amenities.

http://www.summertown.info/shopping_category9.html?inpBURL=index.php

Security

Wolfson College and the Institute of Physics do not accept responsibility for the loss of or damage to personal property. Residential guests are advised to shut and lock bedroom windows, and lock bedroom doors, whenever they leave their room, even if going to the kitchen/lounge, and to keep valuables with them at all times.

IOP membership

Non-member registrants attending this conference will automatically become affiliate members of the Institute of Physics for 12 months and will receive copies of "Physics World". As an affiliate member you will be entitled to attend all conferences at the members' rate for the period of your membership and to use MyIOP – the member-only



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network.

Full details will be sent to you after the conference. In order to take advantage of this affiliate membership, payment for the conference registration fee must be received in accordance with our payment terms.

Membership of the Institute of Physics is open to all those with an interest in Physics. For further information, please visit <http://members.iop.org> or email membership@iop.org.

Complaints and Concerns

We hope that your time at the conference is enjoyable. However, should you encounter any problems during your stay, please report them to the conference registration desk as soon as possible. The conference team will make every effort to rectify the issue as soon as possible.



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Programme

Wednesday 9 July

- 08:00 **Registration -**
Auditorium Foyer - Wolfson College
- 08:30 **Introduction**
Professor Harry Jones, Oxford University, UK
- 08:45-09:45 **Superconducting fundamentals and theory**
Professor Archie Campbell, Cambridge University, UK
- 09:45-10:30 **Superconducting materials I**
Dr Suzanne Speller, Oxford University, UK
- 10:30-11:00 **Tea and coffee**
Auditorium Foyer - Wolfson College
- 11:00-11:45 **Superconducting materials chemistry**
Dr Simon Clarke, Oxford University, UK
- 11:45-12:30 **Practical superconducting materials**
Dr John Durrell, Cambridge University, UK
- 12:30-13:30 **Lunch**
Haldane Room
- 13:30-14:30 **Superconducting applications**
Dr Martin Wilson, Consultant, UK
- 14:30-15:00 **Tea and Coffee**
Auditorium Foyer - Wolfson College
- 15:00-16:30 **Superconducting magnet application - Magnetic resonance imaging**
Dr Joe Minervini, Massachusetts Institute of Technology, USA
- 16:30-17:30 **Superconducting applications - MRI**
Dr M'hamed Lakrimi, Siemens Magnet Technology, UK
- 18:00 **BBQ Dinner**
Harbour Lawn



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Thursday 10 July

- 08:00 **Registration**
Auditorium Foyer – Wolfson College
- 08.30-09:30 **Measurements techniques for superconducting materials and applications**
Professor Damian Hampshire, Durham University, UK
- 09:30-10:30 **Computer aided engineering and design for modelling applications of superconductors**
Mr Chris Riley, Cobham Vector Fields, UK
- 10:30-11:00 **Tea and coffee**
Auditorium Foyer
- 11:00-12:00 **Fusion - The challenge for superconducting magnet technology**
Dr Elwyn Baynham, Magnetech Ltd, UK
- 12:00-13:00 **Design principles of superconducting magnets – Part I**
Dr Martin Wilson, Consultant, UK
- 13:00-13:45 **Lunch**
Haldane Room
- 13:45-16:15 Travel to Oxford Instruments visit (places must be pre-booked to attend)
Organised by Dr Ziad Melhem, Oxford Instruments, UK
Coach depart from Wolfson College Forecourt at 13:45
- 16:30 **Return to Oxford University**
- 18:15 **Drinks reception – Private Dining Suite**
- 19:00 **Gala Conference Dinner – The Hall**

Friday 11 July

- 08:00 **Registration**
Auditorium Foyer – Wolfson College
- 08.30-10:00 **Superconducting magnet applications For HEP**
Dr Luca Bottura, CERN, Switzerland
- 10:00-11:00 **New superconductors: Iron pnictides**
Dr Amalia Coldea, Oxford University, UK



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- | | |
|-------------|---|
| 11:00-11:30 | Tea and coffee
<i>Auditorium Foyer</i> |
| 11:30-12:30 | Design principles of superconducting magnets - Part II
Dr Martin Wilson, Consultant, UK |
| 12:30-13:30 | Lunch
<i>Haldane Room</i> |
| 13:30-15:00 | Superconducting conductors – Challenges for the next 10 years
Professor David Larbalestier, Florida University, USA |
| 15:00-15:30 | Tea and coffee
<i>Auditorium Foyer</i> |
| 15:30-16:30 | Cryogenics for superconducting applications
Mr Charles Monroe, Monroe Brothers Ltd, UK |
| 16:30-17:30 | Superconducting electrical machines
Dr Mark Ainslie, Cambridge University, UK |
| 17:30-17:45 | Closing remarks
Dr Ziad Melhem, Oxford Instruments, UK |



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Sponsors



The European Society for Applied Superconductivity



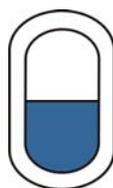
Oxford Instruments



Cobham Technical Services

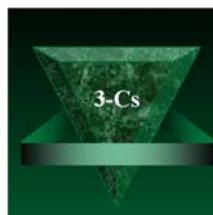


Institute of Physics Superconductivity Group



British
Cryogenics
Council

British Cryogenics Council



3-Cs Ltd (formerly Coated Conductor Cylinders Ltd)



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Location map

Leonard Wolfson Auditorium



Institute of Physics

76 Portland Place, London W1B 1NT, UK

Telephone: +44 (0)20 7470 4800

Fax: +44 (0)20 7470 4848

www.iop.org/conferences

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