

30 March – 2 April 2015 University of Birmingham, Birmingham, UK

IOP Institute of Physics



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Contact information

If you have any questions, please contact the conferences team by telephone or email. There will be at least two IOP representatives on-site throughout the conference in case you have any queries.

Claire Garland Institute of Physics

E-mail: <u>claire.garland@iop.org</u> Tel: +44 (0) 20 7470 4840 Mobile: +44 (0)7881 923 142

Conferences team E-mail: <u>conferences@iop.org</u>

Organising committee

Chair: Quanmin Guo, University of Birmingham Co-chair: Richard Palmer, University of Birmingham Secretary: Wolfgang Theis, University of Birmingham Martin Castell Neil Curson James O'Shea Rasmita Raval

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

Disclaimer

The Institute of Physics and the University of Birmingham accept no responsibility for any accident, loss or damage to participants or their property during the conference.



Venue

The conference will be held at the University of Birmingham in the Avon Lounge and Avon Room located on the 2nd floor of University Centre. Please see building reference R23 on the campus map appended at the back of this document.

University of Birmingham Edgbaston Birmingham B15 2TT

Facilities

There is a range of shops and services on campus, including banks, bookshops, opticians and supermarkets. The building code is included after each outlet, refer to the campus map. For more information, visit http://www.birmingham.ac.uk/community/university-campus/retail/shops.aspx

- Barclays Bank (University Centre R23)
- Lloyds TSB (University Centre R23)
- Costcutter grocery store (The Vale Student Village)
- Fruit and Veg Stall (R24)
- Hairdressers (University Centre R23)
- Opticians (University Centre R23)
- Print shop (University Centre R23)
- Rymans stationery (University Centre R23)
- Salco Phones (University Centre R23)
- Spar shop (University Centre R23 and Guild of Students 01)
- Sports Centre (R25)
- Unique stamps, royal mail etc. (University Centre R23)

Accommodation

For participants who have booked accommodation on the conference park, check in is available from 14:00 at Lucas House. Rooms should be vacated on departure by 11:00. The reception desk is manned 24 hours a day.

Rooms are on a bed and breakfast basis; all rooms include towels, linen, toiletries, tea and coffee making facilities, hairdryer, iron and ironing board and TV. Breakfast will be served daily in the Park Restaurant from 07:15-09:15.

Lucas House The Conference Park 48 Edgbaston Park Road Edgbaston Birmingham B15 2RA

Tel: +44 (0) 121 415 8400 E-mail: <u>enquiries@venuebirmingham.com</u>

The conference park is located a 10-15 minute walk from University Centre. Please see the campus map appended at the back of this document for directions.



Bar facilities

A bar is located in Lucas House and is open from 18:00-23:00 daily. For residents, the bar is open 24 hours; however, after 23:00 drinks must be charged to the room.

Internet

WiFi internet access is available for all participants; log in details are available on request from the registration desk. The University also offers Eduroam for students, researchers and staff from participating institutions. For further information visit <u>http://www.eduroam.org</u>

Registration

Registration will be held in the Avon Lounge at the following times. Each participant will receive a pen, a notepad, an abstract book which includes the programme and a lapel badge.

Monday 30 March	11:00-18:30
Tuesday 31 March	08:30-18:30
Wednesday 1 April	08:45-18:00
Thursday 2 April	08:45-13:30

Participants are asked to wear their badge at all times to help with security and to enable you to identify fellow participants. Replacement badges can be issued at the registration desk. On departure, please return your badge to the conference desk to be recycled.

Catering

The registration fee includes refreshments and lunch each day, the poster and exhibitor reception on Monday 30 March, an evening buffet on Tuesday 31 March, and the conference dinner on Wednesday 1 April. Please refer to the overview below for timings and locations.

Date	Event	Time	Location
Monday 30 March	Lunch	12:30-13:30	Avon Room
	Tea break	15:40-16:10	Avon Room
	Poster/Exhibitor reception	18:10-20:00	Avon Room
Tuesday 31 March	Coffee break	10:40-11:10	Avon Room
	Lunch	12:50-14:00	Avon Room
	Tea break	15:40-16:10	Avon Room
	Buffet	18:10-20:00	Barber Institute
Wednesday 1 April	Coffee break	10:40-11:10	Avon Room
	Lunch	12:50-14:00	Avon Room
	Tea break	15:40-16:10	Avon Room
	Conference dinner	19:00-22:30	Botanical Gardens
Thursday 2 April	Coffee break	10:40-11:10	Avon Room
	Lunch	13:10-14:00	Avon Room



Social programme Monday 30 March

A poster and exhibitor reception will be held in the Avon Lounge on Monday 30 March from 18:10. The reception is open to all participants. Please refer to page 6 for a list of exhibitors.

Tuesday 31 March



A reception and cold fork buffet will be held at the Barber Institute on Tuesday 31 March. The Barber Institute is one of Birmingham's finest Art Deco buildings - for more information, visit their website at http://barber.org.uk/. Please see building reference R14 on the campus map appended at the back of this document.

Wednesday 1 April Botanical Gardens Westbourne Road Birmingham B15 3TR



A reception and gala dinner will be held at the Botanical Gardens on Wednesday 1 April. The Botanical Gardens, located just 4.5km from the University, is home to over 7,000 different plants and acts as a beacon for butterflies and bees. It is nestled within and surrounded by some of the most fascinating and beautifully landscaped gardens in the country. For more information, visit www.birminghambotanicalgardens.org.uk/

Coaches will depart from outside University Centre at 18:50 and 19:10 and from the conference park outside Lucas House at 18:50 and 19:10. On the return, coaches will depart from the Botanical Gardens at 22:00 and 22:15 and drop off at Lucas House. The coach company is Bouden Travel Ltd. For anyone driving to the Botanical Gardens, parking is available on a first-come first served basis.

Dietary requirements

Participants with special dietary requirements are asked to notify the conference office by email 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. Please email <u>claire.garland@iop.org</u> if you have any queries.

Nut allergies – unfortunately the venue cannot provide assurances that food has not been cross-contaminated with traces of nuts during ingredient processing at manufacture's sites, and during food preparation and on-site. For this reason, we are unable to provide guarantees that any of the food served is free from nuts or trace elements

IOP Conferences App

An IOP Conferences App is now available to download via the Apple App Store or Google Play

The app will contain all the information you need to make the most of your time at the conference. A personalised agenda and abstract search function is included in the app, along with the full conference programme, exhibitor profiles, speaker biographies and venue plans.



The app will updated in the lead up to and during the conference, so please check the app regularly for the latest information.

To download the app just type IOP Conferences into the Apple App Store or Google Play.

Information for presenters

Oral presentations

The audio-visual equipment included in the lecture theatre is an LCD projector, screen, PC, PA system, lectern and lectern microphone. If you require any additional equipment, please email <u>claire.garland@iop.org</u>

Presenters are asked to prepare their presentations to match the time allocated in the program as these will be strictly enforced by the conference chairs.

- Invited talks (40 minutes) 35 minutes + 5 minutes for questions
- Contributed talks (20 minutes) 15 minutes + 5 minutes for questions

Presentations should be structured to include an introduction, the main content and conclusions. Visual aids (e.g. maps, charts etc) can be used but you are advised to keep the information simple, use colour and contrast for emphasis and use a large enough font (minimum 15 point) to ensure legibility.

Please send your presentation in advance of the conference as a PDF or PowerPoint file to <u>claire.garland@iop.org</u>; please include the date and time of your presentation and only send presentations which are final.

If you are unable to send your presentation prior to the conference, please bring it with you on a USB memory stick and load it onto the PC located in the lecture theatre no later than the start of the session in which you are speaking. Please save your file as your surname and initial in the appropriate folder on the desktop.

Direct connection of personal laptops (with set-up in the break prior to the corresponding session) is the alternative. For those using a PC laptop, please make sure you have a VGA output. If presenting from a Macintosh, please bring a VGA cable.

The electrical current in the UK is 230v AC and 3 pin plug sockets. If you need an adapter, please bring one with you.

Poster presentations

Posters will be on display for the duration of the conference with a dedicated poster session taking place on Monday 30 March from 18:10-20:00. Authors are asked to remain next to their posters for as much time as possible to answer questions.

Displaying and removing posters

Posters can be mounted from 12:00 on Monday 30 March and must be removed by 13:00 on Thursday 2 April. Any poster not removed by this time, will be recycled. Please refer to the programme in the abstract book for your corresponding poster number.

Dimensions

Poster boards measure 90cm x 180cm and orientated vertically (see picture below). Posters must fit within these



dimensions. Posters must be prepared in advance of the conference as it will not be possible to print them on-site. Fixing material will be supplied to mount your poster.



Content

Posters are a visual presentation of your research and as such we recommend that you use schematic diagrams, graphs and tables, where possible, rather than just text. Please use an appropriate sized font so the information is legible at a distance of 1 metre.

Your poster should include the title, author's name, and affiliations with the presenting author underlined. We recommend that this information is placed top centre of the page. For the poster, we recommend that you include an abstract, method section, results section and a conclusion or summary. You might also want to list key references or acknowledgements. If you decide to structure your paper differently, please ensure you format the poster with clear headings and keep text to a minimum.

Programme

Please refer to the website at http://issc-20.iopconfs.org/programme for the latest programme.

Exhibition

The exhibition will be held from lunchtime on Monday 30 March to the afternoon refreshment break on Tuesday 31 March. Exhibitors include:

- Henniker Scientific Ltd (stand 10)
- Hiden Analytical (stand 15)
- LewVac (stand 16)
- Mi-Net Technology Ltd (stand 14)
- Japan Vacuum Instruments Ltd (stand 7)
- Kurt J Lesker Company Ltd (stand 9)
- Scanwel Ltd and Specs (stand 8)
- SS Scientific Ltd (stand 3)
- Testbourne Ltd (stand 4)
- UHV Design Ltd (stand 1)





Henniker Scientific Ltd - http://www.henniker-scientific.com

Henniker supply scientific instruments & UHV systems for thin film deposition and surface science. Our range includes UHV sample transfer & manipulation, ion and electron sources, mass spectrometers, UV and X-ray sources and bespoke turnkey multi-technique deposition (thermal evaporation, sputtering, PLD) and analysis (XPS, SPM, SIMS, LEED, Auger) systems.

Hiden Analytical - http://www.hidenanalytical.com

For 30 years Hiden Analytical has been a global leader in the design and manufacture of scientific instruments for research, development and production applications. In vacuum, gas, surface and plasma processes our quadrupole mass spectrometers have gained worldwide recognition for their precision and outstanding performance.

Japan Vacuum Instruments Ltd - http://www.thermo-riko.co.uk

Japan Vacuum Instruments Ltd. based in Liverpool, UK is a trading company who is representing Japan-made vacuum technology products in UK. JVI will exhibit Thermo Riko's Rapid Infrared Heater which is suitable for non destructive sample cleaning for all surface analysis techniques or suitable for rapid temperature control for Thermal Desorption Spectroscopy. Also other products i.e. Vacuum Gauges and Dry pumps will be exhibited.

Kurt J Lesker Company Ltd - <u>http://www.lesker.com/newweb/index.cfm</u>

Manufacturer & Distributor of Vacuum Components.

LewVac - http://www.lewvac.co.uk

UK stockist and supplier of quality vacuum components, with custom manufacturing service.

Mi-Net Technology Ltd - http://www.mi-net.co.uk

Mi-Net Technology Ltd is a scientific distributor of advanced materials, components and instruments for research and industry. Formed in 1986 our product range includes instruments for thin film metrology, thin film deposition, material surface testing and analysis.



Scanwel and Specs - http://www.scanwel.co.uk and http://www.specs.com

Scanwel manufacture and distribute components and systems to end users and o.e.m.s in academia, government laboratories and industry. Our own product range includes vacuum fittings, components, custom fabrications/ chambers and bespoke systems/ end stations

SPECS A team of scientists and engineers develop and produce scientific instruments for surface analysis, material science and nanotechnology. SPECS is your essential partner due to our focus on customer support, know-how and their international contacts. Scientists all over the world can rely on SPECS product quality and be inspired by the continuous program of new product development.

Testbourne Ltd - http://www.testbourne.com

Testbourne Ltd is the representative for some of the world's leading scientific instrument manufacturers that cover Advance Ceramic-to-metal & Glass-Ceramic Sealing Technology, Thin Film QCM technology, Sample Preparation Equipment, Microwave and Radio Frequency Systems.

We also have 36 years' experience of supplying an extensive range of high purity metals, alloys, compounds and single crystal materials. Available as sputtering targets, evaporation materials, powders, wire, rods & sheets.

SS Scientific Ltd - http://www.s3vacuum.com

SS Scientific manufacture and distribute a range of vacuum equipment for scientific, research and industrial applications, including: manipulators, sample transfer, e-Guns from 3 to 30kW, a full range of bench-top / portable / trolley pumping stations, and vacuum bake solutions. Featured new products on show are LED Chamber Lighting, Wobble Stick and Ionized Jet Deposition.

Our flexibility enables us to provide a competitive custom solution that is not available from catalogue companies.

UHV Design Ltd - <u>http://www.uhvdesign.com</u> Heating and manipulation products for vacuum applications.

Travel

By train

Three mainline stations serve the city centre including New Street, Moor Street and Snow Hill. There is also the Midlands Metro light rail transport system, a light rail system running from Wolverhampton to Birmingham City Centre.

The University of Birmingham Edgbaston Campus has its own train station. Up to six trains per hour depart from Birmingham New Street for the University on the cross-city line (final destination Longbridge or Redditch). The journey takes 10 minutes, and the centre of campus is a 5 minute walk from University station.

For information contact National Rail Enquiries (tel: +44 (0)8457 484950).

By air

Birmingham International Airport is one of the UK's fastest growing airports, with more than 50 airlines flying from over 100 destinations. The airport operates direct flights from locations in the UK, as well as from the USA, Canada, Europe and the Middle East.



The journey by taxi from the airport to the University takes approximately half an hour. Alternatively, Air-Rail Link provides a free, fast connection between the airport terminals and Birmingham International railway station. Air-Rail Link operates every two minutes (journey time 90 seconds). Birmingham International railway station has frequent services to New Street Station in the city centre (journey time around 15 minutes).

If you are arriving into London, there is a frequent train service from London Euston railway station to New Street Station (journey time around 1 hour 30 minutes).

By coach

There are frequent express coach services to Birmingham from London, Heathrow and Gatwick Airports, and many UK cities. The long-distance coach station is in Digbeth in the city centre.

Digbeth coach station is a short walk from New Street train station. Ask at the coach station for directions to New Street and then either catch the local train service to University station or catch the bus as described above.

By road

Birmingham is at the heart of England's motorway network linking the M1, M5, M6, M40 and M42.

Approaching from the north west or south east along the M6 Leave at Junction 6 (signposted Birmingham Central) to join the A38(M) At the end of the motorway, keep to the right, go over a flyover, then through some underpasses to join the A38 Bristol Road The University is on your right, two and a half miles from the city centre

Approaching from the M42 north:

Leave at Junction 8 to join the M6 northbound and follow the instructions above Approaching from the south west: Leave the M5 at Junction 4 signposted Birmingham SW) to join the A38 The University is approximately eight miles from the motorway

Approaching from the M40:

It is easier to turn south on the M42 and leave at Junction 1, heading north on the A38 Bristol Road The University is approximately eight miles from the motorway

You can plan your route online using one of the free route planners - examples are The AA or The RAC.





Parking

A limited number of parking permits are available for participants to park on the University Campus. Please contact <u>claire.garland@iop.org</u> if you require a permit. Otherwise, you are requested to park in any of the 3 pay & display car parks as well as the new multi-storey pay on exit known as the North East Car Park. Locations are:

- North East Car Park (access via Pritchatts Road) Sat Nav Postcode B15 2SA
- North Car Park (access via Pritchatts Rd) Sat Nav Postcode B15 2SB
- Pritchatts Road Car Park (at the junction with Vincent Drive) Sat Nav Postcode B15 2QU
- Grange Road Car Park (Main Campus) Sat Nav Postcode B15 2TT (for access to the campus)

The first three car parks above are peripheral car parks and can be accessed without entering the main campus. Visitor charges are:

- University Permit Holders £1.00
- Non University Permit Holders Up to 1 hour £2.00 1-3 hours £3.00 3-5 hours £4.00 5-8 hours £6.00

Please be advised that enforcement procedures are in place in all University parking areas and penalty notices will be issued to all vehicles that fail to comply with parking regulations.



Health and safety

Safety and emergency procedures

In the unlikely event of a fire, an alarm will sound. Please evacuate the building immediately and assemble outside University or Staff House Square. Emergency exits are well sign posted. Do not enter the building until instructed to do so by a member of staff or the fire brigade.

Smoking

In accordance with government legislation smoking is not permitted in any building, temporary enclosed structure or substantially enclosed space outside of buildings.

First aid

If you fall ill or injure yourself during the conference, please report the incident to a staff member who will call a trained first-aider. In case of serious injury, paramedics will be called. All three emergency services, fire, ambulance and police, can be contacted by dialling 999 from any telephone.

Some medicines are available over the counter from pharmacists. For medical advice, try NHS by telephone on 111 (24-hour within the UK) or visit the website at http://www.nhs.uk/. Reciprocal arrangements with the UK allow residents of some countries to receive free emergency medical treatment. Most doctors' surgeries have a daily drop in hour or go to the Accident and Emergency department at a hospital for emergency treatment.

Behaviour and conduct

The Institute of Physics reserves the right to charge in full for loss or damage to buildings and property.

General information

Payment

The organiser reserves the right to refuse admission to any participants who has failed to pay their registration fee in full prior to the start of the event.

Money

Britain's currency is the pound sterling (£). There are banks and cash machines in University Centre.

Electricity

British electrical standards are 50Hz 230 volts, so some North American and European electrical devices may require converters; all will require plug adapters.

Tourist information

For addition information on Birmingham, visit the tourist board at http://visitbirmingham.com/

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 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 <u>http://members.iop.org</u> or email <u>membership@iop.org</u>.

Edgbaston Campus Map

Index to buildings by zone

Red Zone		03	University House		
R1	Law Building	04	Ash House		
R2	Frankland Building	05	Beech House		
R3	Hills Building	06	Cedar House		
R4	Aston Webb – A Block,				
	Earth Sciences	Gree	en Zone		
R5	Aston Webb – B Block	G1	32 Pritchatts Road		
R6	Aston Webb – Great Hall	G2	31 Pritchatts Road		
R7	Aston Webb – C Block	G3	European Research Ins		
R8	Physics West	G4	3 Elms Road		
R9	Nuffield	G5	Computer Centre		
R10	Physics East	G6	Metallurgy and Materia		
R11	Medical Physics	G7	IRC Net Shape Labora		
R12	Bramall Music Building	G8	Gisbert Kapp Building		
	Poynting Building	G9	52 Pritchatts Road		
<mark>R14</mark>	Barber Institute of Fine Arts	G10	54 Pritchatts Road		
R15	Watson Building		Nicolson Building		
R16	Arts Building	G12	Winterbourne House a		
	Ashley Building		Westmere		
	Strathcona Building		Priorsfield		
	Education Building		Park House		
	J G Smith Building		Elms Plant		
	Muirhead Tower		Park Grange		
	Main Library		Elms Day Nursery		
	University Centre		en Zone Conference P		
	Staff House		Hornton Grange		
	Munrow Sports Centre		Garth House		
	Geography		Lucas House		
	Biosciences Building	G17	Peter Scott House		
R28 Learning Centre and Primary Care					
	_		ow Zone		
Blue	Zone	Y1	Old Gymnasium		

Blue Zone

- B1 Medical School B2 Institute of Biomedical Research including IBR West
- B3 Wellcome Clinical Research Facility (1st floor)
- B4 Robert Aitken Institute for Clinical Research
- **B5** CRUK Institute for Cancer Studies and Denis Howell Building
- **B6** Research Park
- B7 90 Vincent Drive
- B8 Henry Wellcome Building for Biomolecular NMR Spectroscopy
- B9 Medical Practice and Dental Centre

Orange Zone

- The Guild of Students 01
- 02 St Francis Hall

- stitute als atory and Garden Park
- Y1 Old Gymnasium
- Y2 Haworth Building
- Y3 Mechanical and Civil Engineering Building
- Y4 Terrace Huts
- Y5 Estates West
- Y6 Maintenance Building
- Y7 Grounds and Gardens
- Y8 Chemistry West
- Y9 Computer Science
- Y10 Alta Bioscience
- Y11 Chemical Engineering
- Y12 Biochemical Engineering
- Y13 Chemical Engineering Workshop
- **Y14** Sport and Exercise Sciences
- Y15 Civil Engineering Laboratories

Y16 Occupational Health

Y17 Public Health



Edgbaston Campus Map

Index to buildings by zone

Red Zone

- R1 Law Building
- R2 Frankland Building
- **R3** Hills Building
- R4 Aston Webb A Block, Earth Sciences
- R5 Aston Webb B Block
- R6 Aston Webb Great Hall
- R7 Aston Webb C Block
- R8 Physics West
- R9 Nuffield
- R10 Physics East
- R11 Medical Physics
- R12 Bramall Music Building
- R13 Poynting Building
- R14 Barber Institute of Fine Arts
- R15 Watson Building
- R16 Arts Building
- R17 Ashley Building
- R18 Strathcona Building
- R19 Education Building
- **R20** J G Smith Building
- R21 Muirhead Tower
- R22 Main Library
- R23 University Centre
- R24 Staff House
- R25 Munrow Sports Centre
- R26 Geography
- R27 Biosciences Building
- R28 Learning Centre and Primary Care



venuebirmingham

Full location information is available at www.venuebirmingham.com/map

For bookings and enquires call 0121 415 8400

Postcodes for sat nav: Lucas House - BI5 2RA Hornton Grange - BI5 2RS Centre of campus (the Great Hall) - BI5 2TT

- E University train station
- M Muirhead Tower and Hospitality Suite
- ME Mechanical Engineering
- GH Great Hall and campus reception
- AR Avon Room
- B Bramall Building
- P Car park entrance
- A Arts building
- CI Conference Park and B&B check in

Bus info

The 99 and 98 stops on Edgbaston Park Road for the Conference Park. The 61 and 63 stop on the Bristol Road: from there it is a short walk up the Edgbaston Park Road through the East Gate for the University Campus.

Train info

Trains whose ultimate destination is Longbridge, Redditch, Hereford and Cardiff Central stop at University station. There is a train from New Street on average every 15 minutes; the journey takes only 8 minutes and we are just 2 stops from New Street.

Disabled parking

There is reserved disabled parking at Lucas House and Hornton Grange.



venuebirmingham

48 Edgbaston Park Road, Edgbaston, Birmingham, B15 2RA - 0121 415 8400

www.venuebirmingham.com

Travel directions to the Conference Park at venuebirmingham

By Road:

From M6 South or North-West

Leave the M6 at Junction 6 and follow the A38(M). Follow signs to 'City centre, Bromsgrove, (A38)'. Do not take any exit to left. Go over 1 flyover and through **three** Queensway tunnels. Go straight over at the Bristol Street traffic lights (Bristol Street Motors will be on your left) and continue along the A38 for 1 ³/₄ miles at which point you reach the end of the dual carriageway and take a right into Edgbaston Park Road. Lucas House is ¹/₂ mile up this road on the right hand side.

From M5 South-West

Leave the M5 at Junction 3 and travel along the A456 (Hagley Road) for about 4 miles. Just after the Eaton and Portland Hotels, take a right at the traffic lights into Norfolk Road (B4129). This is just before you reach the Apollo Hotel. Norfolk Road soon becomes Nursery Road and at the traffic lights in Harborne, go straight ahead into Somerset Road which very soon swings left. Remain on Somerset Road and at the T-junction with Edgbaston Park Road turn right. Lucas House is about 350 metres on your left hand side.

From M40 Oxford and South

Arrive on the M42 and travel west towards the M5. Travel north on the M5 leaving at Junction 3. (Read directions "From M5 South West").

From M42 East Midlands

Join the M6 heading towards Birmingham Central and leave the M6 at Junction 6. (Read directions "From M6 South or North-West").

By Rail

The Conference Park is about a ten minute taxi journey from New Street Station where there is a regular train service to and from all parts of the country. Trains run every half hour from London, Euston - the journey time is approximately 100 minutes. We are a short walk from 'University' train station.

The main reception for residential guests is at Lucas House. Car parking is available both at Lucas House and across the road at Hornton Grange / Garth House.

Also see <u>www.venuebirmingham.com/map</u> for more help with directions, including a Google map.

We look forward to seeing you and hope that you have a pleasant journey.



Venuebirmingham The Conference Park



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

Registered Charity Number: 293851

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