

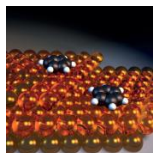
# Interdisciplinary Surface Science Conference (ISSC-21)

**10–13 April 2017**

**Royal Northern College of Music, Manchester, UK**

**<http://issc-21.iopconfs.org>**

Organised by the IOP Thin Films and Surfaces Group



## Interdisciplinary Surface Science Conference (ISSC-21)

### Contacts

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This handbook contains all the information you need to plan your time at ISSC-21. Please read the document carefully, and if you do have any queries contact the IOP Conferences team.

IOP Conferences

Tel: +44 (0)20 7470 4800

Mobile: +44 (0)7884 268232

Email: [conferences@iop.org](mailto:conferences@iop.org)

The Institute of Physics Conferences team will be on-site for the duration of the event to assist participants with any enquiries and to support the overall running of the event. The conferences team will be located at the IOP conference registration desk in the concourse area.

*If you encounter any problems during the event, please report them to the registration desk as soon as possible. The conferences team will make every effort to rectify the issue as soon as possible.*

### Disclaimer

The Institute of Physics and the Royal Northern College of Music accept no responsibility for any accident, loss or damage to participants or their property.

### Organising committee

Rob Lindsay (Manchester) co-chair

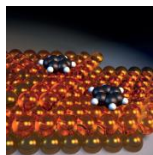
Andrew Thomas (Manchester) co-chair

Heike Arnolds (Liverpool)

Hajo Freud (Fritz-Haber Institute, Berlin)

Wolfgang Theis (Birmingham)

Geoff Thornton (University College London)



### Travel

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The RNCM is situated 1 mile south of Manchester city centre, in the heart of the Education Quarter, on the corner of Oxford Road and Booth Street West. Oxford Road connects the RNCM by bus to the city centre, and all of Oxford Road, Piccadilly and Victoria train stations. Oxford Road Station is an easy 8 minute walk away.

#### By air - from Manchester Airport

The nearest airport is Manchester Airport. Manchester Airport is one of the largest and busiest in the country. It is located about 10 miles (16km) south of the city centre, about 30 minutes from the University.

The airport has a number of transport links to the city:

- Train - The airport's two terminals are linked directly to the city centre by a fast, frequent 24-hour train link to Oxford Road station.
- Taxi - A taxi from the airport to the venue will cost approximately £25.

Most major airlines fly to and from Manchester. For more information please visit the Manchester Airport website [www.manchesterairport.co.uk](http://www.manchesterairport.co.uk).

#### By train

The RNCM is located close to Oxford Road train station, which is one stop from Manchester Piccadilly mainline station. For national rail information contact [National Rail Enquiries](http://www.nationalrail.gov.uk) (tel: +44 (0)8457 484950). Visit [www.tfgm.com](http://www.tfgm.com) for details of buses and trains in the Greater Manchester area. Taxi ranks are at each railway station; the fare to the RNCM is approximately £6.00

#### By bus and coach

National Express ([www.nationalexpress.com/coaches](http://www.nationalexpress.com/coaches)) serve over 1,200 destinations across the UK from the Chorlton Street Coach Station, which is near Piccadilly railway station. You can contact the Chorlton Street Coach Station by telephone on 08705 808080. For local bus services visit [www.tfgm.com](http://www.tfgm.com).

#### By car

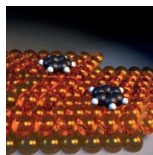
Sat Nav: M13 9RD. You can plan your route online using one of the free route planners - examples are [The AA](http://www.aa.com) or [The RAC](http://www.rac.co.uk).

##### From M62 (East):

Leave M62 at J12 and join M602 Salford for 4 miles. At motorway end join A57 Manchester, joining A57M after 1 mile. Leave at A34 (Signed Congleton), bear left (following signs for Universities) then get into the right hand lane. At traffic lights turn right into Grosvenor Street, go through the first set of lights and at next set turn left onto Oxford Rd. At the next set of lights turn right (Booth Street West) and the RNCM is located 100 yards up on the right hand side

##### M62 (West):

Leave M62 at J18 to join M60 Manchester. At next roundabout join A576, Manchester Central. After approx 2 miles bear left at traffic lights on to A665. Go straight on past several signs for Universities. At junction with Rochdale Road (A664) turn left, then right down Thompson Street. Keep following the Universities signs that eventually bring you off the Mancunian Way fly-over onto Higher Cambridge Street. Now take the forth turning on the left (Booth Street West) and the RNCM is located 100 yards up on the left hand side.



## Interdisciplinary Surface Science Conference (ISSC-21)

### From M56:

At motorway end continue along A5103 Manchester for 4 miles. Turn right at traffic lights (signed Whitworth Art gallery, Museum, Universities). At next lights (Whitworth Pub) turn left onto Oxford Road. Go past the University of Manchester until you reach a bridge over the road, followed by a set of traffic lights. Turn left (Booth Street West) and the RNCM is located 100 yards up on the right hand side.

### From M67:

At motorway end, continue along A57 for approx 3 miles towards City Centre. At roundabout (Apollo Theatre on left hand side) take 2nd exit signed posted Universities. Go through the first set of lights and approximately half a mile further is the Oxford Road T junction. At the junction turn right and travel a further half mile until you reach a bridge over the road, followed by a set of traffic lights. Turn left at the lights (onto Booth Street West) and the RNCM is 100 yards up on the right hand side.

## Parking

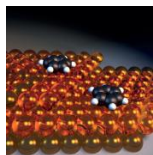


1. RNCM secure underground car park, located next to the College in the basement of the Sir Charles Groves Hall of Residence, off Rosamund Street West. **Please note that this car park is only open from 5pm weekday evenings, and anytime over weekends and bank holidays.** £3.50 per car, payable on entry to the car park.
2. The University of Manchester Booth Street car park is situated off Booth Street West. Open 6am – midnight.
3. The Aquatics Centre car park is situated off Booth Street East. Open 6am – 11pm.

Please note that car parks 2 and 3 are not run by the RNCM.

## Taxis

StreetCars Manchester offer a 24/7 private hire taxi service. For more information and booking details, visit [www.streetcarsmanchester.co.uk](http://www.streetcarsmanchester.co.uk), or call 0161 228 7878.



## Interdisciplinary Surface Science Conference (ISSC-21)

### Venue

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The ISSC-21 conference will be held at the Royal Northern College of Music. Lectures will be held in the Forman Lecture Theatre, exhibition and catering in the concourse areas and posters in the Brodsky Restaurant.

#### **Royal Northern College of Music (RNCM)**

124 Oxford Road

Manchester

M13 9RD

Reception: +44 (0)161 907 5200

Event Office: +44 (0) 161 907 5353



For information about the venue, please visit their website: [www.rncm.ac.uk](http://www.rncm.ac.uk)

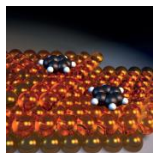
### **Accommodation**

Visit Manchester is the official accommodation provider for the ISSC-21.

All rooms are held on an online system, allowing you to book and secure your own accommodation using either pro-forma invoices or credit/debit card. If you require any assistance with your reservation, support is available via the Accommodation Booking Team.

To book accommodation for this event, please use the following <https://aws.passkey.com/go/ISSC212017>

If the online portal is closed, please contact the Visit Manchester Accommodation Booking Team on +44 (0)0161 238 4563 / 4514 or email: [abs@visitmanchester.com](mailto:abs@visitmanchester.com)



## Interdisciplinary Surface Science Conference (ISSC-21)

### On-site registration

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Registration will be located in the Royal Northern College of Music concourse area. When you enter the building walk past the café on your right and the registration desk will be location on the right of the concourse staircase. Registration will be open during the following times:

Date	Times
Monday 10 April	12:00 – 20:00
Tuesday 11 April	08:00 – 20:00
Wednesday 12 April	08:00 – 18:00
Thursday 13 April	08:30 – 13:00

On arrival, each participant will receive a delegate pack containing a pen and pad, programme and a badge. The abstract book will be in digital format only and will be available to download from the website at least one week prior to the start of the event.

Please wear your badge at all times because this will help with security, catering and enable you to identify your fellow delegates. Replacement badges can be issued at the registration desk.

### Payment

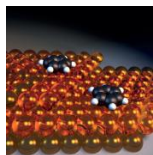
The organiser reserves the right to refuse admission to any participants who has failed to pay their registration fee in full prior to the start of the event.

### Notice board

A notice board will be placed near the registration desk. Participants should check the board for the latest programme updates and conference information.

### Dress code

The dress code for the conference and all social events is smart casual.



# Interdisciplinary Surface Science Conference (ISSC-21)

## Programme

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The conference programme is available to view online at <http://issc21.iopconfs.org/programme>. A printed copy of the programme will be included in your welcome pack.

## Social programme

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### Monday 10 April

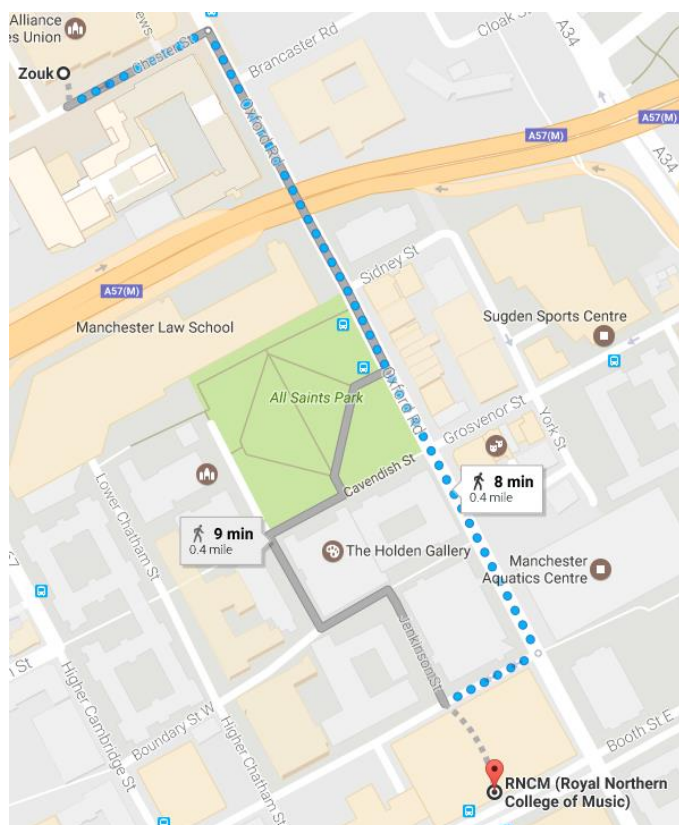
A drinks reception and poster session will be held in the Brodsky Restaurant (RNCM) from 18:00 until 20:00. Light canapes will be served during the drinks reception.

### Tuesday 11 April

A drinks reception and poster session will be held in the Brodsky Restaurant (RNCM) from 18:00 until 20:00. Light canapes will be served during the drinks reception.

### Wednesday 12 April

An informal conference dinner will be held at the Indian restaurant Zouk Tea Bar & Grill.



Zouk Tea Bar & Grill is located off Oxford Road, a short 10 minute walk from the conference venue.

#### Zouk Tea Bar & Grill

Unit 5, The Quadrangle, Chester Street, Manchester, M1 5QS

<http://zoukteabar.co.uk/menus/manchester/>

Walking directions from RNCM:

- Turn left onto Oxford Road
- Walk past All Saints Park on left
- Take next left onto Chester Street
- Zouk Tea Bar & Grill is on the right

Participants will be expected to make their own way to the venue to meet the group at 19:30.

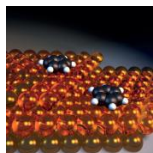


The dinner will consist of a three course set menu served banquet style for sharing. Wine, beer and soft drinks can be ordered throughout the meal.

Starters: Chooza Chaat, Samosa Chaat (v), Spicy Prawn Cakes

Mains: Sajji Whole Roasted Leg of Lamb, Chicken Biryani, Mili Juli Sabzi (v)

Dessert Platter: A selection of our delicious desserts to share



## Interdisciplinary Surface Science Conference (ISSC-21)

### Catering

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Refreshments, lunches and conference dinner are included in the registration fee and are served at set times during the conference programme.

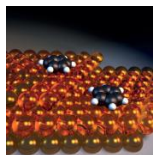
Attendees should make their own arrangements for dinner on nights other than the Wednesday 12 April; a list of local restaurants can be found at [www.restaurantsofmanchester.com](http://www.restaurantsofmanchester.com).

<b>Monday 10 April</b>		<b>Times</b>	<b>Location</b>
Lunch	12:00 - 14:00	Light sandwich buffet	RNCM - Concourse
Afternoon refreshments	15:50 - 16:20	Tea, coffee and snack	RNCM - Concourse
Poster session reception	18:00 - 20:00	Drinks and canapes	RNCM - Brodsky Restaurant
<b>Tuesday 11 April</b>		<b>Times</b>	<b>Location</b>
Arrival refreshments	08:00 - 09:00	Tea and coffee	RNCM - Concourse
Mid-morning refreshments	10:40 - 11:00	Tea, coffee and snack	RNCM - Concourse
Lunch	13:00 - 14:00	Bowl food	RNCM - Concourse
Afternoon refreshments	15:40 - 16:00	Tea, coffee and snack	RNCM - Concourse
Poster session reception	18:00 - 20:00	Drinks and canapes	RNCM - Brodsky Restaurant
<b>Wednesday 12 April</b>		<b>Times</b>	<b>Location</b>
Arrival refreshments	08:00 - 09:00	Tea and coffee	RNCM - Concourse
Mid-morning refreshments	10:40 - 11:00	Tea, coffee and snack	RNCM - Concourse
Lunch	12:40 - 14:00	Bowl food	RNCM - Concourse
Afternoon refreshments	15:40 - 16:00	Tea, coffee and snack	RNCM - Concourse
Conference dinner	19:30 - 20:00	Indian Three Course Banquet	Zouk Tea Bar & Grill
<b>Thursday 13 April</b>		<b>Times</b>	<b>Location</b>
Arrival refreshments	08:30 - 09:20	Tea and coffee	RNCM - Concourse
Mid-morning refreshments	10:40 - 11:00	Tea, coffee and snack	RNCM - Concourse
Lunch	13:15 - 14:00	Packed takeaway lunch	RNCM - Concourse

### 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.





## On-site facilities / health and safety

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### Internet

Wifi is provided free of charge by The Cloud. You will need to set up a user name and password which can be done in advance by visiting <https://service.thecloud.net/service-platform/login/>.

### Cloakroom and luggage storage

The venue does not facilitate a manned cloakroom. Coat rails will be available near the IOP registration desk. Please note that there is no luggage storage room. All goods left in these areas are left at the owner's risk and neither the IOP nor the Royal Northern College of Music accept any liability for any loss or damage to personal goods.

### Local amenities

The Royal Northern College of Music is located within Manchester city centre where you will find an array of high street shops and local amenities. There is an ATM located in the RNCM reception area (a small charge is applied to use this), alternatively the closest high street ATM (cash machine) and shops can be found along Oxford Road.

### Contemplation and prayer areas

If you wish to make use of a quiet private room, please speak to the IOP staff at the main registration desk.

### Catering facilities

There is an onsite café at RNCM which is open until 09:00 – 19:30 on Monday and 09:00 – 14:30 Tuesday, Wednesday and Thursday.

### Smoking

Smoking is not permitted anywhere within the building. If you wish to smoke, please use the shelter located outside on the surface car park, and please, use the ashtrays provided and not the floor.

### Safety and emergency evacuation procedures

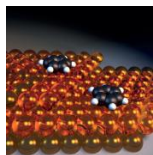
In the event of a fire a continuous siren will sound. **The alarm is tested at 7.30am every Wednesday - if you hear it at any time other than this, you MUST evacuate the building.** There are many exits from the building; all marked with green pictogram signs. Please familiarize yourselves with these. The Fire Assembly Point is on the surface carpark to the right of reception. Please remain there until you are told that it is safe to re-enter. Do not re-enter the building until instructed to do so by RNCM personnel.

### Security

Do not leave your belongings or valuables unattended at any time, abandoned bags maybe removed by RNCM personnel. If you do have a security concern, the first point of contact should be reception. Exhibitors are strongly recommended to use night sheets and/or alarms and to take out adequate insurance against loss or damage. Exhibitors are advised not to leave their stands unmanned during the event and initial breakdown period.

### First aid

Any incidents requiring First Aid assistance should be reported in the first instance to a member of the venue management team, reception or an usher.



## General information

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Manchester is a city and metropolitan borough in North West England. The city is notable for its architecture, culture, music scene, media links, scientific and engineering output, social impact, sports clubs and transport connections.

For more information on Manchester as a destination please log onto [www.visitmanchester.com](http://www.visitmanchester.com); here you will discover all things to do in Manchester - from events and attractions to fine dining and a great night out.

Download a printable version of the [www.visitmanchester.com/discover/maps.aspx](http://www.visitmanchester.com/discover/maps.aspx).

For city transport information please see [www.tfgm.com](http://www.tfgm.com).

### Money

Britain's currency is the pound sterling (£). Credit cards - especially Visa and Mastercard - are widely accepted in Manchester's restaurants, bars, cafés and shops. American Express and Diners Club cards are less commonly accepted. There are plenty of cash machines (also known as cashpoints or ATMs) dotted around Manchester.

### Climate and weather

Manchester has a changeable climate. Average yearly low 6.33c (43.40) and average yearly high 13.13c (56.63). For the latest local BBC weather report [www.bbc.co.uk/weather/7281603](http://www.bbc.co.uk/weather/7281603).

### Electricity

British electrical standards are 50Hz 230 volts, so some North American and European electrical devices may require converters; all will require plug adapters (please bring your own to the conference).

### VAT

Value-added tax (VAT) is a 20% sales tax levied on most goods and services except basic food items, books and children's clothing. Restaurants must, by law, include VAT in their menu prices. If you are travelling for leisure or business purposes, you may be eligible for a VAT refund. The VAT refund scheme is called the Retail Export Scheme or Tax-Free Shopping. [www.hmrc.gov.uk/vat/sectors/consumers/overseas-visitors.htm](http://www.hmrc.gov.uk/vat/sectors/consumers/overseas-visitors.htm)

### Tipping

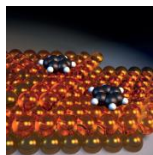
There are no hard and fast rules for tipping in UK. If you are happy with the service, a 10% tip is customary, particularly in restaurants or cafés. Tipping in bars is not expected. Taxi drivers are commonly tipped 10%.

### Medical services

Some medicines are available over the counter from pharmacists. For medical advice, try the NHS 111 service which is a non-emergency number. It is free to call and available 24 hours a day. Call 111 and speak to a highly trained adviser, supported by healthcare professionals. They will ask you a series of questions to assess your symptoms and immediately direct you to the best medical care for you.

### Emergencies

Visitors should be aware of their personal safety. Call 999 for the emergency services (police, fire and ambulance) which is a free call from any phone. You can also call 112 for non-life threatening assistance and to report crimes. To report non-urgent crime, call the police on 101 from within the UK.



## Interdisciplinary Surface Science Conference (ISSC-21)

### Exhibition

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An exhibition will be held alongside the conference on Tuesday 11 April and Wednesday 12 April in the Royal Northern College of Music concourse area. A list of exhibitors is included below. We would encourage participants to visit the exhibitors to find out more about their products and services.



#### **Henniker Scientific**

[www.henniker-scientific.com](http://www.henniker-scientific.com)

Henniker Scientific supply a comprehensive range of scientific instruments & UHV systems for thin film deposition, vacuum gas analysis and surface science. Our range includes the industry leading highest transmission and resolution quadrupole mass spectrometers, ion and electron sources, residual gas analysers, UV sources and bespoke turnkey multi-technique deposition (thermal evaporation, sputtering, PLD) and analysis (XPS, SPM, SIMS, LEED, Auger) systems. The range of instruments is further complimented by plasma surface modification systems for UHV surface preparation and surface functionalisation. From UHV transfer and sample heating/cooling stages to bespoke cluster deposition systems, we can build a key part, if not all of your next research system.



#### **Hiden Analytical**

[www.hidenanalytical.com](http://www.hidenanalytical.com)

For 35 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**

[www.thermo-riko.co.uk](http://www.thermo-riko.co.uk)

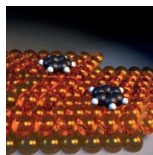
Japan Vacuum Instruments Ltd. based in Liverpool, UK is a trading company who is representing Japan-made vacuum technology products in UK. JVI will exhibit Thermo Riko's Rapid Infrared Heater which is suitable for non destructive sample cleaning for all surface analysis techniques or suitable for rapid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



#### **MANTIS-SIGMA**

[www.sigma.surface.science.com](http://www.sigma.surface.science.com) / [www.mantisdeposition.com](http://www.mantisdeposition.com)

SIGMA Surface Science and our partner MANTIS Deposition are dedicated to the development and manufacture of high-quality systems and components for cutting-edge applications in surface analysis, nanotechnology and thin film deposition. We enable researchers to both create and analyse thin films for new advanced materials and device development. SIGMA specialises in state-of-the-art ESCA and SPM technology with an exciting new ESCA software and advanced range of UHV surface analysis tools. MANTIS specialises in nanoparticle deposition, UHV sputtering, e-beam, MBE and PLD. We offer a range of nanoparticle technology, RF atom and ion sources, sputter cathodes with optional in-situ tilt, mini e-beam evaporators, organic evaporators as well as modular R&D deposition systems. We enable researchers to both create and analyse the latest materials for advanced materials and device developments to meet current and future needs for nanoscience research.



## Interdisciplinary Surface Science Conference (ISSC-21)



### **Molecularspray Ltd.**

[www.molecularspray.co.uk](http://www.molecularspray.co.uk)

Our company provides ultra-high vacuum (UHV) and high vacuum compatible electro spray deposition sources to enable surface science experiments on large, complex, fragile and non-volatile molecules. Our systems are enabling research on adsorbed molecules ranging from single molecule magnets to proteins characterised with techniques from scanning tunnelling microscopy and synchrotron-based electron spectroscopy.



### **Scanwel / SPECS**

[www.scanwel.co.uk](http://www.scanwel.co.uk) / [www.specs.com](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 fittings, components, custom fabrications/ chambers and bespoke systems. Scanwel distributes leading edge technology products from world leading companies in the fields of surface analysis, microscopy and vacuum.

### **SPECS Surface Nano Analysis GmbH - A Story of Constant Innovation**

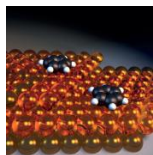
SPECS has more than 150 employees at its headquarters in Berlin and its subsidiaries in the USA and Switzerland. The company also has sales offices and international sales channels in more than sixteen countries. A team of scientists and engineers are involved in developing and producing scientific instruments for surface analysis, material science and nanotechnology. By constant innovation new techniques, components or system concepts are launched every year since more than 30 years, revolutionizing the field of surface analysis. Contact SPECS Surface Nano Analysis GmbH ([www.specs.com](http://www.specs.com)) for further information.



### **Scienta Omicron**

[www.scientaomicron.com](http://www.scientaomicron.com)

Scienta Omicron is the leading innovator in Surface Science. the company provides top capabilities for the research community through its technology leadership in electron spectroscopy, scanning probe microscopy and thin film deposition. These capabilities are available in custom tailored solutions from one source with worldwide sales and service groups.



## Information for presenters

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### Oral presentations

The Forman Lecture Theatre is equipped with the following audio-visual equipment:

- Data Projector
- Screen
- Laptop with Windows and internet connection
- Remote mouse/laser pointer
- Lectern and microphone

If you require any additional equipment, please email [conferences@iop.org](mailto:conferences@iop.org).

Speakers are requested to bring their presentation on a USB memory stick in windows power point format and preload it onto the PC/laptop located in the lecture theatre.

To optimise compatibility, particularly for the inclusion of multimedia components, speakers should include the original files so that it can be re-embedded if necessary. Direct connection of personal laptops (with set up in the break prior to the corresponding session) is an acceptable, but not preferred alternative.

The electrical current in the UK is 230 volts AC and 3 pin plug sockets. If you need an adapter, please bring one with you. Adaptors can be purchased from the airport.

The lecture theatre is reasonably large, so speakers should use a minimum 16-point font size in PowerPoint slides to ensure legibility.

### Poster presentations

Posters will be on display in the Brodsky Restaurant on Monday 10 April and Tuesday 11 April, with dedicated poster sessions as scheduled in the programme.

Please note that during poster sessions, authors should stand close to their boards to answer questions and facilitate discussions on their work. If you are presenting a poster please ensure that you display your poster on the board number that matches your poster number in the programme. Fixing material will be supplied.

Posters must be **no larger than A0 in size** (118.9 x 84.1cm / 46.8 x 33.1 inches), in a **portrait format**. If your poster does not fit within these dimensions, we cannot guarantee it will be displayed.

Poster presenters can mount their posters from 12:00 on Monday 10 April and must remove them by 14:00 on Wednesday 12 April.

**Institute of Physics**

76 Portland Place, London W1B 1NT, UK

Telephone: +44 (0)20 7470 4800

**[www.iop.org/conferences](http://www.iop.org/conferences)**

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