



## 25th International Workshop on Deep-Inelastic Scattering and Related Topics

**3–7 April 2017, Birmingham, UK**

**Final Bulletin: March 31st 2017**

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We're looking forward to welcoming you to the 25th International Workshop on Deep-Inelastic Scattering and Related Topics, to be held at Birmingham University, UK on 3–7 April, 2017. This final bulletin provides a detailed guide to the meeting, its scientific and social programmes and is intended to help you organise your visit to Birmingham. More details are available on the meeting web page directly at <http://indico.cern.ch/e/DIS17> or via <http://www.dis17.org>

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### Instructions to Speakers

All presentations should be uploaded via the timetable on the indico web page at least an hour before the start of the session you are speaking in. PDF format is preferred. To upload your talk:

- 1) Find your talk on indico and click on it
- 2) In the resulting white pop-up window, click on the icon in the top right hand corner ('View contribution details')
- 3) On the resulting page, click on the pen icon on the right alongside 'Presentation Materials', which takes you onward to 'Upload files'

All meeting rooms have their own computers connected to projectors. We plan to use them for all talks to avoid switch-over times, so please don't expect to project from your personal laptop except in an emergency.

All rooms are equipped with a hand-held integrated laser-pointer and page-turner. There will be a scientific secretary from the local organising team in all of the meeting rooms to help in case of problems.

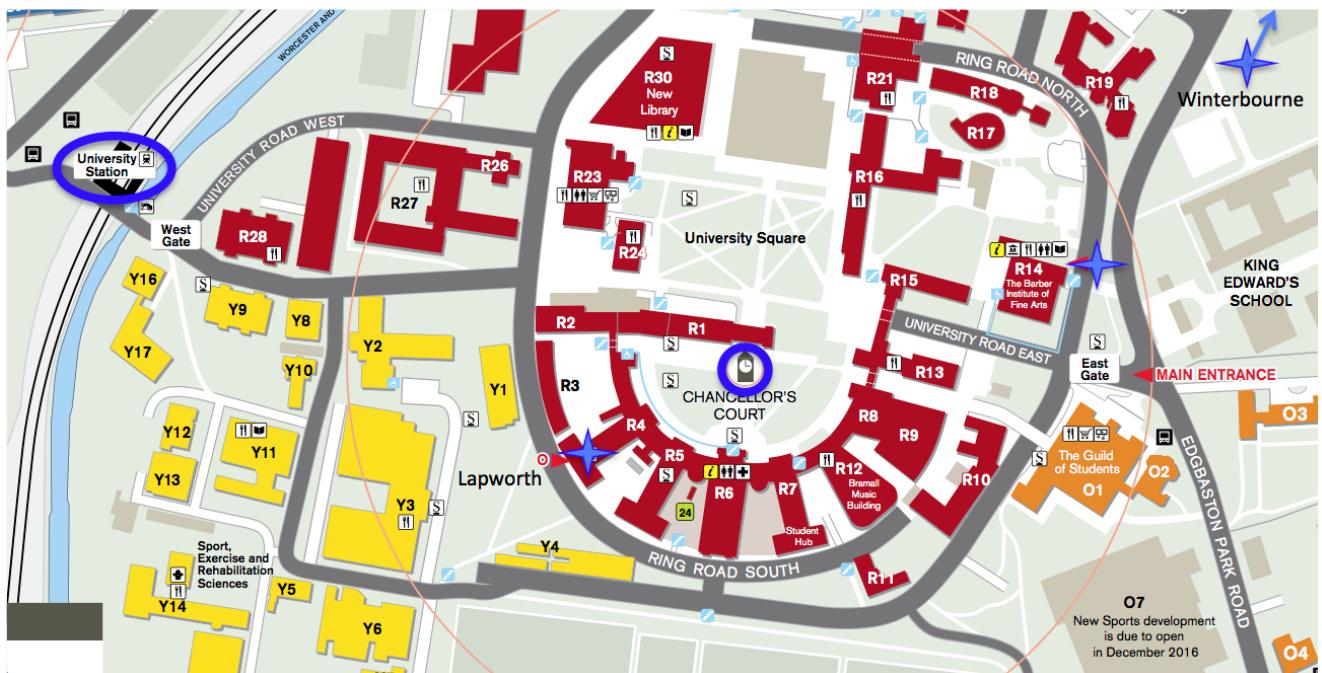
## Overview of Schedule

An overview of the meeting schedule is given in Figure 1, with more detail in the sections below.

|           | Mon 3 April       | Tues 4 April | Wed 5 April      | Thurs 6 April | Fri 7 April |
|-----------|-------------------|--------------|------------------|---------------|-------------|
| Morning   | Plenary           | Parallel     | Parallel         | Parallel      | Plenary     |
| Afternoon | Plenary           | Parallel     | Parallel         | Excursion     | Plenary     |
| Evening   | Welcome reception | Concert      | Workshop Banquet | RSC Play      |             |

Fig 1: Schedule Overview

## Venue



Plenaries: R12: Bramall Music Building

Parallels: R8: Physics West

R9: Nuffield Building

R13: Poynting Physics

Lunch: R23: University Centre (Avon room)

University Railway Station  
and Clock Tower

Places to visit (Barber,  
Lapworth, Winterbourne)

Figure 2: Zoomed version of the central part of the University Campus. See text below for more information

The meeting will be held at the centre of the red-brick Edgbaston campus of the University of Birmingham. A detailed map of the full campus is available [here](#). A zoomed version indicating the buildings in which workshop events are being organised is shown in figure 2.

The venue is most easily accessed via the University railway station (5–10 minutes walk across campus), which has regular fast connections to Birmingham New Street station in the city centre. When emerging from University Station, turn left and head for the clock tower to find the meeting

Plenary sessions will be held in the Elgar Concert Hall of the Bramall Music Building (R12 on the map). Parallel sessions will be in lecture theatres and meeting rooms in the Physics West (R8), Poynting (R13) and Nuffield (R9) buildings. Lunch will be in the Avon Room, which is in University Centre (R23). Coaches to the welcome reception and the excursions will leave from outside the Barber Institute (R14).

Interesting places to visit whilst on campus include the Barber Institute of Fine Arts (R14), the Lapworth Museum of Geology (and fossils!) (R4) and Winterbourne Gardens (short walk along Edgbaston Park Road, small entrance fee).

For refreshments, the Brathy Bar is located in Staff House (R24), there are cafes in University Centre (R23), Staff House (R24) and The New Library (R30). There is a Costa Coffee in the Bramall Music Building (R12) and a Starbucks in Muirhead Tower (R21).

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## Arrival and registration

Registration desks will be open from 08.00–09.00 on Monday 3 April in the foyer of the Bramall Music Building. Please collect your delegate pack and name badge during this period if possible. If you arrive late, registration will still be possible at the workshop secretariat desk, which will be open all week.

**Your name badge also acts as your lunch-ticket and admittance to the social events that you have signed up for, so please wear it (or at least keep it with you) all week.**

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## Scientific Programme

The meeting covers an eclectic mixture of material related to Quantum Chromodynamics and Deep Inelastic Scattering as well as a general survey of the hottest current topics in high energy physics. Much of the program is devoted to the most recent results from large experiments at BNL, CERN, DESY, FNAL, JLab, and KEK. The workshop consists of plenary sessions on Monday and Friday and parallel sessions on Tuesday, Wednesday and Thursday morning. The parallel sessions are organised into 7 working groups:

- WG1) Structure Functions and Parton Densities
- WG2) Low x and Diffractive Physics

- WG3) Higgs and BSM Physics in Hadron Collisions
- WG4) Hadronic and Electroweak Observables
- WG5) Physics with Heavy Flavours (charm, beauty and top)
- WG6) Spin and 3D Structure
- WG7) Future of DIS

An overview of the scientific programme, including venues for the parallel sessions is available via the timetable link on the indico web page or directly at <https://indico.cern.ch/event/568360/timetable/#all>

A detailed listing of all talks is included in delegate packs and is also available at <http://www.DIS17.org/timetable-toprint.pdf>

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## Lunches and Coffee Breaks

On all days except Thursday (excursions), lunch will be served in the Avon Room in University Centre (see fig 2 above).

On Monday and Friday (plenary days), tea and coffee breaks will be on the first floor landing of the Bramall Music Building.

On Tuesday, Wednesday and Thursday (parallel session days), there will be two locations for tea and coffee breaks; the Poynting Building Bridge Study Room (nominally for working groups meeting in the Poynting and Nuffield buildings) and the West Building Library (nominally for working groups meeting in the West building).

There are various other coffee shops, cafes and restaurants selling refreshments around campus. Again, please see 'Venue' section for details.

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## Computing and Wireless Networks

The **eduroam** network is available across the university campus.

If you do not have credentials to access eduroam, please register for the **WiFiGuest** network by following the instructions below:

1. Connect to the 'WifiGuest' network
2. If a login page doesn't come up automatically, in a browser go to: <https://service.thecloud.net/service-platform/>
3. Click on 'Go' next to 'Get Online at Edgbaston Main Campus'
4. If you don't already have an account, click on 'Create Account'
5. Fill in the required information
6. After this you should then be connected to the Guest network.

If you have any problems, please come to the secretariat desk.

We have a couple of quiet rooms available on parallel session days to prepare talks etc. One of these is the West Seminar Room 2 (W106). Others are available on request. Please ask at the secretariat desk for details.

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## Social Programme

There will be a **Welcome reception with food** on the evening of Monday 3 April at Birmingham Botanical Gardens, hosted jointly by Birmingham City Council and Birmingham University's School of Physics & Astronomy. Coaches to the Botanical Gardens will leave the University (from outside the Barber institute) at 18.45. For those who wish to stay late, a bar will remain open at the Botanical Gardens until 23.00. There will be coaches going from the Botanical Gardens to the city centre every 20 minutes from 21.30 until 23.30. If you are travelling independently, the address is Westbourne Rd, Birmingham B15 3TR.

At 19.00 on Tuesday 4th April, you are invited to a **concert by the acclaimed Birmingham University brass ensemble** in the Elgar lecture theatre (same venue as the plenaries). Tea and coffee will be available in the Bramall building foyer from 18.15. The concert will last around an hour.

The **conference banquet** is scheduled for the evening of Wednesday 5th April from 19.30 for a sit-down at 20.00. It will take place in the City of Birmingham Council House, which is the seat of local government. The address is Victoria Square, B1 1BB (top-centre of the city centre map in Fig 3). It is in the city centre near to the hotels . Attendees are requested to make their own way to the Council House.

The **excursions** will take place on Thursday afternoon. Packed lunches will be provided and will be available to pick up in the coffee break on Thursday morning. A reminder of which excursion you signed up for can be found on the back of your name badge. A brief outline of the details for each excursion is given below:

Coaches for **Warwick Castle** will leave from outside the Barber Institute **promptly at 13.15**. Please ensure that you are on the coach before this time. The castle is open until 16.00, after which you will be able to look around the historic town of Warwick. Coaches will return from the Castle Car Park to Birmingham City Centre at 17.30.

Coaches for **Stratford-upon-Avon** will leave from outside the Barber Institute soon after 13.15. We will visit **The Shakespeare Birthplace Trust**, where there will be a chance to look around the birthplace / exhibition, as well as a presentation from a Trust expert. The visit to the Trust will end around 16.30, after which you are invited to look around Stratford town centre or nearby attractions such as Anne Hathaway's cottage.

For those on the Stratford excursion who are not attending the evening play at the RSC, a coach will return to Birmingham from Windsor Street car park promptly at 17.30.

For those on the Stratford excursion who are attending the evening performance of **Antony and Cleopatra at the Royal Shakespeare Theatre**, there are many options for dinner in Stratford. Theatre tickets will be distributed as you get onto the coach at lunchtime. You are invited to make your own way to the theatre, where the performance starts at 19.15. After the performance, coaches will return from outside the theatre to

Birmingham city centre.

For those who opted for the **walk in the Malvern Hills**, the coach will leave from outside the Barber Institute soon after 13.15. Please **ensure that you bring suitably stout footwear and waterproof clothing**. The walk is around 8km, will last around 3 hours and will include the 'British Camp' iron-age hill fort. You will be provided with refreshments in the Plum of Feathers pub around half way through the walk. The coach will set off to return to Birmingham City Centre at 18.30

For those on the **Canal Boat tour of the city**, the coach will leave from outside the Barber Institute at 13.45. The boat departs from and returns to Sherbourne Wharf in the city centre (see map in fig 3), which is close to the hotels.

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## Secretariat and Support

The workshop secretariat desk will be open at the following times and locations:

Monday 3 April: 08.00 – 18.00, Bramall Music Building foyer  
Tuesday 4 April: 09.00 – 18.00, Poynting physics building Bridge Study Room  
Wednesday 5 April: 09.00 – 18.00, Poynting physics building Bridge Study Room  
Thursday 6 April: 09.00 – 13.00, Poynting physics building Bridge Study Room  
Friday 7 April: 08.30 – 16.00, Bramall Music Building foyer (including cloakroom / bag-drop service)

NEED TO CONFIRM TIMES WITH MARIA / KOSTAS / ROTA PEOPLE ...

You can also contact the meeting organisers by email at [dis17@hep.ph.bham.ac.uk](mailto:dis17@hep.ph.bham.ac.uk)

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## Weather Forecast

At the time of writing, the weather forecast for the meeting is mostly cloud-covered with a bit of sun and little or no rain, daytime high temperatures around 13°C and night-time low temperatures around 5°C. Whilst this may be useful as a rough guide, Birmingham's weather is notoriously unpredictable, with elements of all four seasons sometimes appearing in one day. You are advised to come prepared for all eventualities!

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## Currency and Cashpoint / ATM Machines

The UK currency is Pounds Sterling (£). Approximate current conversion rates are £1.00 = €1.15 = \$1.25. Cashpoint (ATM) machines are plentiful in Birmingham. To find them at the airport, turn left after exiting customs and go just past the Spar shop. On the

university campus, you can find them at Barclays Bank (University Centre) and at the Guild of Students.

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## Mains sockets

The UK also has its own peculiar mains socket standard. Adaptors from European or US plugs can be found in shops at the airport and elsewhere. Please contact the workshop secretariat if you need help to find one.

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## Travel and Transport

### Birmingham airport to city centre / hotels

Birmingham airport has a very frequent train service to Birmingham New Street station in the city centre, which is near to the suggested hotels. Take a free 90 second ride in the AirRail link from the airport to Birmingham International railway station and buy your ticket for a 10–15 minute journey into Birmingham (cost: up to £7.20 return to Birmingham New Street, up to £8 return to University). Alternatively a taxi for the journey to the city centre or the University takes around 30 minutes and costs about £25–£30. There is a black cab taxi rank immediately outside airport arrivals.

All major car rental companies operate from arrivals at the airport. However, if you just plan to attend the conference, it is probably easier to use public transport.

### City centre to University

The University of Birmingham main campus is located about 5 km south-west of the city centre, and has its own railway station (just called 'University'). There are about 6 trains per hour (fewer on Sundays) from the city centre (Birmingham New Street station) to the University station. The tickets cost £2.40 (single), £3.00 (return) and can be purchased from the many machines at New Street. Departures from New Street are usually from platform 11 or 12 with a destination of either Longbridge or Redditch. University is the second stop. Some longer distance trains (e.g. to Hereford) also stop at University (first stop). The station is a 5 minute walk away from the conference venue. To reach the venue, turn left outside the station, cross the railway by the bridge and continue going straight.

If in doubt, head for the iconic university clock tower, which is visible from all directions and very close to the meeting venue.

The University can also be reached from the city centre by bus, number 61, 63 or 64. For these and other buses in Birmingham, you pay the driver on the bus, but no change is given, so its best to have exact fares ready. The standard single adult fare is £2.40.

## Taxis

In the UK, only 5-seater black cabs can legally operate from taxi ranks or be flagged down on the road. There are lots operating around the city centre.

You can also call a private hire vehicle, which is usually the best option from the university campus. There are many firms operating, including Uber. Other examples include:

**TOA taxis** (black cabs for up to 5 people)  
+44 (0) 121 427 8888 <http://www.toataxis.co.uk/>

**Castle cars** (mini-cabs for up to 4 people, can accommodate larger groups)  
+44 (0) 121 472 2222 <http://www.castlecars.co.uk/>

**Crown Blue Arrow** (mini-cabs for up to 4 people, can accommodate larger groups)  
+44 (0) 121 444 4444 <http://crown-cars.co.uk/>

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## **Bars and Restaurants**

Figure 3 gives an idea of the layout of Birmingham City Centre. It contains many bars and restaurants of all kinds. Grand Central (surrounding New Street Station) and the nearby area around Selfridges / Bull Ring shopping centre has lots of options, as does Brindley Place and the walk along the canal to the Mailbox and the areas around St Philip's cathedral and St Paul's church. Broad Street has a number of noisier, late-night bars.

Nearer to the University, there are a couple of pubs and restaurants on the Bristol Road in Selly Oak, though these cater more for undergraduate students. If you are looking for a more 'village' feel, there are clusters of character-pubs and restaurants in the nearby suburbs of Harborne and Moseley. Finally, if you are looking for a fine dining experience, Birmingham has 5 Michelin starred restaurants (Adams, Purnells, Simpsons, Turners, and Carters of Moseley) which are easily found on the web.

A detailed map with lots of specific bar and restaurant suggestions to explore can be found at <http://cern.ch/go/MP6p>. A selection of the favourites of members of the Birmingham group is included in the delegate pack and can be found at <http://www.dis17.org/BirminghamGuide.pdf>



*Figure 3, Part of Birmingham City Centre*

## Birmingham Area Tourism

Birmingham is the second largest city in the UK. It has around 1 million inhabitants and lies at the centre of a metropolitan area of 2.5 million inhabitants. It first grew large during the industrial revolution when it became the centre of the UK's canal network. It is cosmopolitan and ethnically diverse, with a vibrant cultural life and a regenerated post-industrial city centre. In addition to its interest in its own right, it is an excellent base from which to visit many other parts of England and Wales.

There is lots of information about the city on the web. See for example:

<https://www.lonelyplanet.com/england/the-midlands/birmingham>

<https://www.euansguide.com/reviews/england/birmingham-city-of/birmingham>

<http://visitbirmingham.com>

## Emergency Contacts

In case of emergencies:

- UK police and ambulance services can be contacted by telephone via 999 or 112.

- University campus security are contactable via +44-(0)121-414-4444 for emergencies and +44-(0)121-414-3000 for non-emergencies.
- Emergency contacts from among the meeting organisers are Paul Newman (+44-7913-504758) and Kostas Nikolopoulos (+44-7729-280760).

Most Birmingham people are friendly and approachable, but as with any large metropolitan city, crime is not unknown. Please take good care of your belongings, particularly in busy places in the city centre.

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## **Proceedings**

The proceedings of DIS17 will be published on-line by Proceedings of Science, the open-access on-line journal organised by SISSA. All speakers are invited to contribute. The instructions and necessary templates will appear on the workshop indico web page soon.

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## **Acknowledgements**

The meeting has benefited substantially from the generous sponsorship of BNL, CERN, DESY, EPJC, IPPP Durham, STFC, the University of Birmingham and a further US laboratory. This has allowed us to offer reduced fees to PhD students and in other cases of need.

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