



NUFACT 2020 in Manchester

Physics and Astronomy

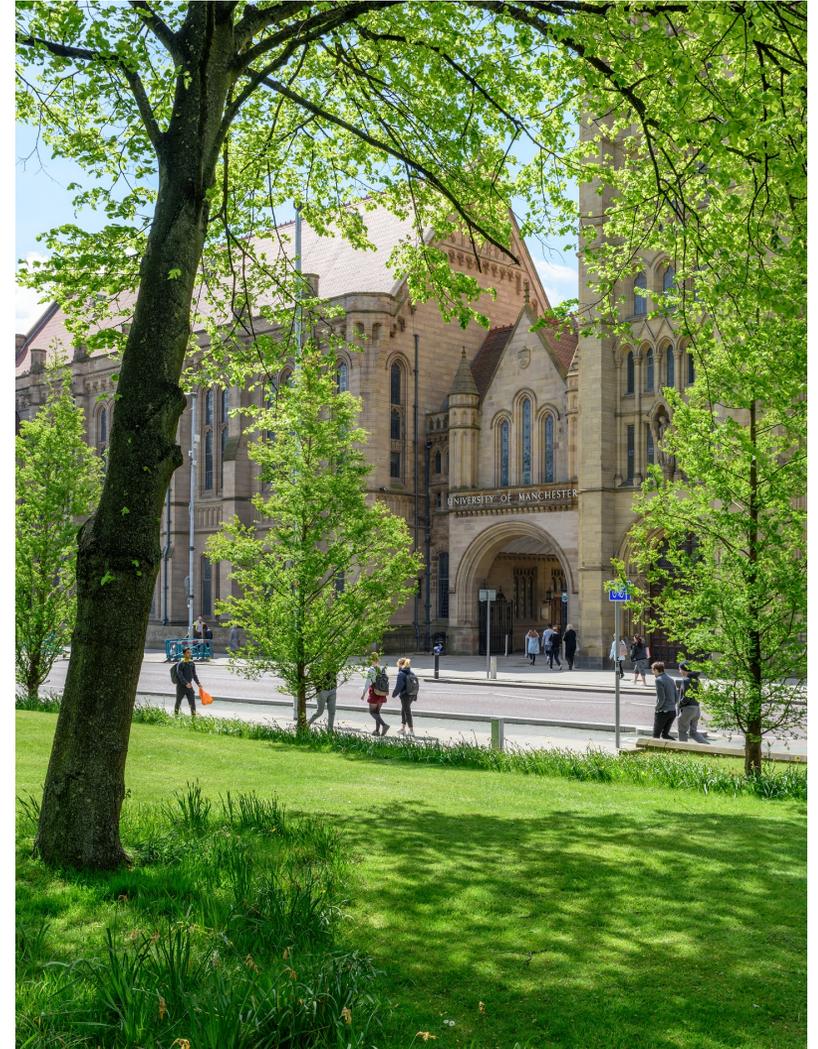
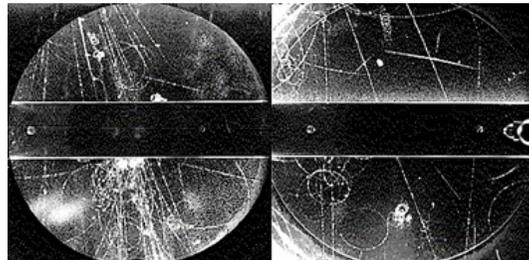
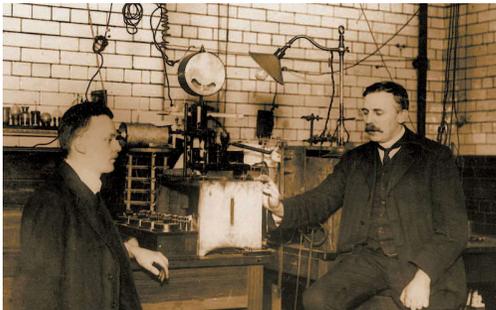
The School of Physics and Astronomy is home to outstanding research, leading facilities and internationally-renowned physicists and astronomers.

The School includes the Jodrell-Bank Observatory, which hosts the Lovell Telescope and the SKA Headquarters, and the National Graphene Institute. It has an outstanding historical record of achievements, from Ernest Rutherford and the detection of the atomic nucleus, to the recent discovery of graphene. Most notably for this conference, this also includes the discovery of strangeness by Rochester and Butler in 1946, which celebrates its 75th anniversary in 2021.

Our tradition of excellence has been established by many eminent teachers and researchers, including 11 Nobel Prize winners, such as Rutherford, Bohr, Bragg, and Blackett. Our most recent Nobel Laureates are Professors Sir Andre Geim and Sir Konstantin Novoselov, who were awarded the prestigious honour in 2010 for their pioneering discovery of graphene.

The School also has a very active outreach programme, from a number of student-led initiatives to the regular TV and radio presenter Professor Brian Cox and Professor Theresa Anderson, who is director of the Jodrell Bank Discovery Centre.

The High-Energy Physics group is one of the largest in the UK and looks back on a long history in the field. Group members have held a number of leadership positions over the years and currently include the co-spokespeople of the DUNE and Muon g-2 collaborations and the deputy spokesperson of the LHCb collaboration. The group has significant involvement in detector development and operation as well as physics exploitation and also includes a strong theory group.





Transport

Globally accessible



Manchester Airport serves over 200 non-stop global flight routes

Internationally accessible

Manchester is one of the most accessible cities in Europe thanks to its world-class airport and strategic position in relation to the UK's rail and road network. It has, therefore become the natural choice for organisers of national and international conferences.



Air

Manchester Airport is the global gateway to the North of England, and the largest UK airport outside of London.

The airport offers **non-stop flights from over 200 destinations** including almost every major European city as well as global hubs in North America, the Middle East and Asia Pacific .

The city centre is 15-20 minutes by train (c.£5.00) or 20-25 minutes by taxi (c.£25.00).

Example flight journey times

| | |
|---------------------------|----------|
| London Dublin Belfast | <1hr |
| Paris Amsterdam | 1h |
| Brussels | 1h 30min |
| Frankfurt Geneva | 2h 30min |
| Barcelona Madrid | 4 h |
| Prague | 7h |
| Istanbul Athens | 8h |
| New York Boston | 10h |
| Chicago Dubai Abu | 11h |
| Dhabi | 12h |
| Mumbai | 12h |
| Beijing | 13h |
| LA San Francisco | |
| Hong Kong | |
| Singapore | |



Rail

With direct rail services from across the country, getting to Manchester by train couldn't be easier.

Manchester Piccadilly is one of three main stations in Manchester and offers direct services to most major UK cities.

There are 60 direct trains a day from London (every 20 minutes), with a journey time of just over two hours.

Example rail journey times

| | |
|------------|----------|
| Liverpool | 33 min |
| Leeds | 49 min |
| Birmingham | 1h 30min |
| London | 2h 8min |
| Newcastle | 2h 30min |
| Cardiff | 3h 9min |
| Glasgow | 3h 14min |
| Edinburgh | 3h 20min |



Road

Manchester is well connected to the rest of the UK via excellent motorway links. The M60 ring road connects the city to motorways north, south, east and west.

National Express and Megabus provide coach services from all over the country into Chorlton Street Coach Station in the heart of the city centre.

Rochdale Town Centre
Rochdale Town Centre
On Saturday 13 min
8th Oct 11:52:50



Public Transport

Getting around Manchester



Exchange Square

A compact city-centre

Manchester is easily explored on foot, with a city centre that delegates can navigate within 20 minutes. As well as enjoying the proximity to the city's hotels, restaurants, bars and attractions, delegates will have extra time to take part in the conference programme and network with colleagues.



On foot

Manchester is easily explored on foot, with a city centre that you can navigate within 20 minutes. City Hosts are dotted around the city centre to guide you with directions, public transport information and details on events taking place.

15 minute walk



Free shuttle bus

Within the city centre, delegates can use Metroshuttle – a free 'hop on, hop off' service linking all of the main railway stations, shopping areas and business districts. There are three circular routes across the city.



Tram

The Metrolink network is the largest urban tram system in the UK. The tram can transport delegates to popular attractions and venues across the region and, if delegates are planning on sightseeing.

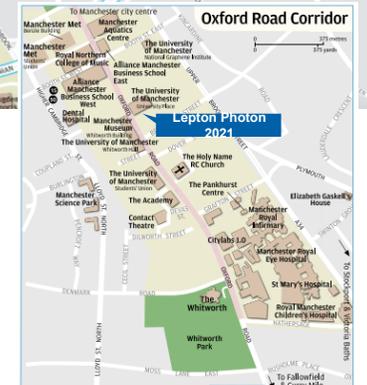


Car parking

In the city centre NCP has over 13,000 car parking spaces across 43 sites. They also offer a pre-book service in Manchester, so delegates can guarantee a car parking space before their journey begins.



| Manchester's neighbourhoods | Oxford Road Corridor | Northern Quarter |
|-----------------------------|----------------------|------------------|
| Petersfield | First Street | Ancoats |
| Castlefield | Greengate | Piccadilly |
| Central Retail District | Medieval Quarter | Spinningfields |
| Chinatown | New Bailey | St John's |
| Civic Quarter | NOMA | The Gay Village |



Conference Venue

The University of Manchester

MANCHESTER
1824
The University of Manchester

Affordable delegate accommodation

The conference will benefit from almost 10,000 hotel rooms in Manchester's city centre and over 22,000 across Greater Manchester - a complete offer that will meet the requirements of delegates, exhibitors, staff and speakers.



From luxury accommodation to budget beds, countryside retreats to serviced apartments, Manchester offers the full range of housing provision for all conference participants.

Manchester's hotel industry has blossomed over the last decade and with an additional 4,500 hotel rooms coming in the next three years alone, the city region's accommodation offering continues to grow at a rapid pace.

We are aware of the importance of attracting those travelling on a budget to the conference. Established chains such as Holiday Inn Express, Ibis and Premier Inn provide value and quality.

Student accommodation is available in Weston Halls on Charles Street at c.£40.00 per night. Over 600 beds are available in hostel accommodation from c.£13.00 per night.

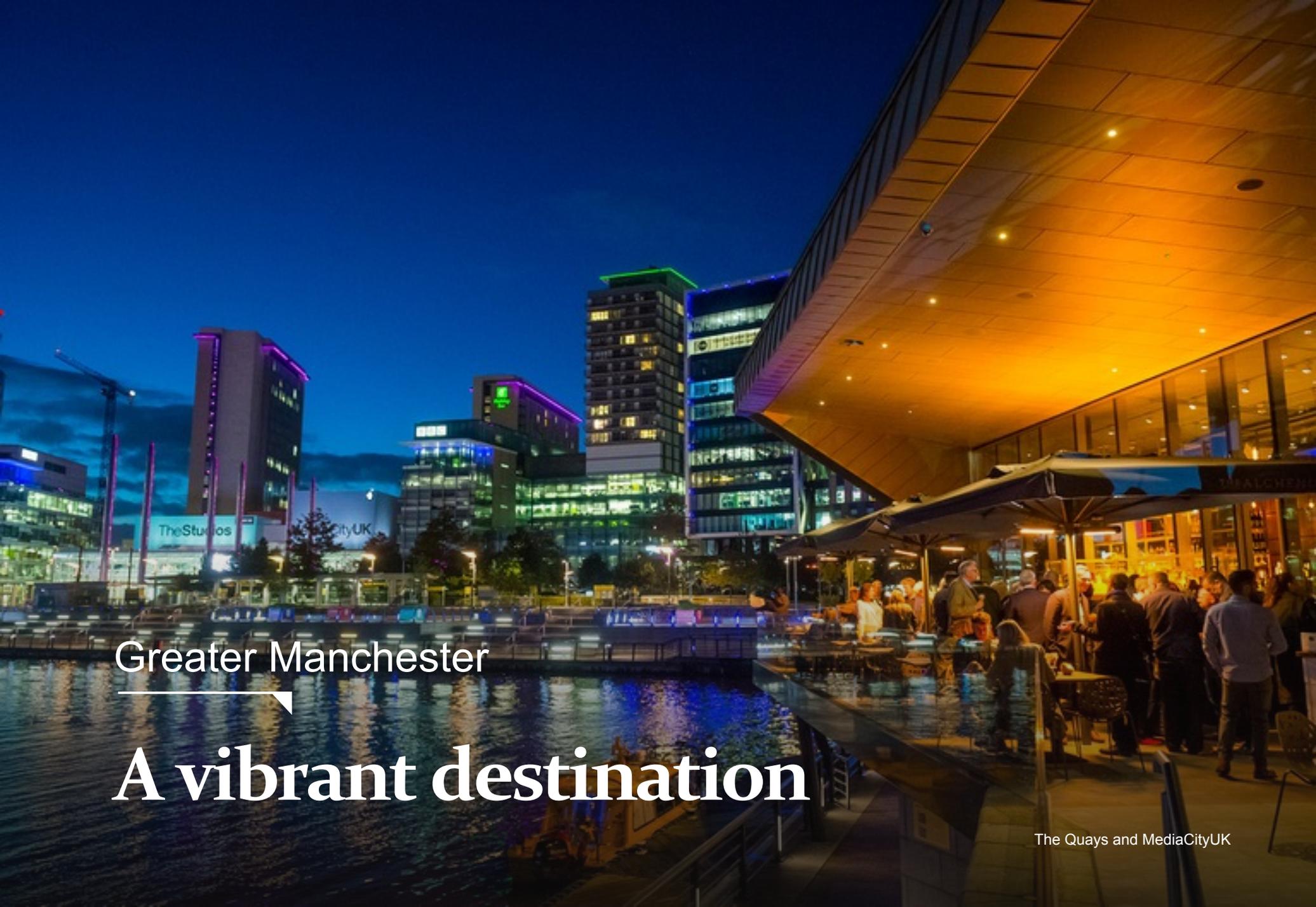
Participants looking for recognisable international hotel groups will find familiarity and comfort in brands such as Hilton, Marriott and IHG. Those looking for a high standard of luxury and service will enjoy hotels such as The Midland, Radisson Blu Edwardian, The Lowry Hotel and the newly-renovated Principal Manchester.

For delegates who enjoy a home away from home, there are a number of three to five star aparthotels which are perfect for families.

Visitors who are seeking a quintessentially British experience on their visit may consider a countryside retreat. There are a number of properties offering beautiful views, peace and quiet and easy access to stunning English landscapes.

| Type | City centre Manchester | | | Greater Manchester | |
|----------------|------------------------|--------------|------------|--------------------|---------------|
| | # Propertie | # Bedroom | Est. rate* | # Propertie | # Bedroom |
| 5* hotel | S | S | £175.00 | S | S |
| 4* hotel | 3 | 369 | £130.00 | 4 | 534 |
| 3* hotel | 20 | 3,967 | £100.00 | 42 | 6,859 |
| Budget | 17 | 3,285 | £80.00 | 102 | 10,137 |
| Unaccredited | 13 | 1,178 | ~ | 38 | 2,761 |
| Self/catering | ~ | ~ | £100.00 | 11 | 350 |
| Guesthouse/B&B | 25 | 1,071 | £50.00 | 74 | 1,259 |
| | 5 | 58 | | 94 | 1,039 |
| Total | 83 | 9,928 | | 365 | 22,939 |

Estimated nightly rates for demonstration purposes only and a subject to request. These figures have been based on experience of similar events at a comparable time of year and are for single occupancy rooms including breakfast and taxes.

A nighttime photograph of the Greater Manchester waterfront. In the foreground, a modern waterfront cafe with large glass windows and a covered outdoor seating area is visible. People are gathered at the cafe, some sitting at tables under large umbrellas. The cafe's interior lights are warm and yellow. In the background, several modern buildings are illuminated with various colors of light, including purple, blue, and green. The buildings are reflected in the water of the canal. The sky is a deep blue, suggesting dusk or early evening. The overall atmosphere is vibrant and modern.

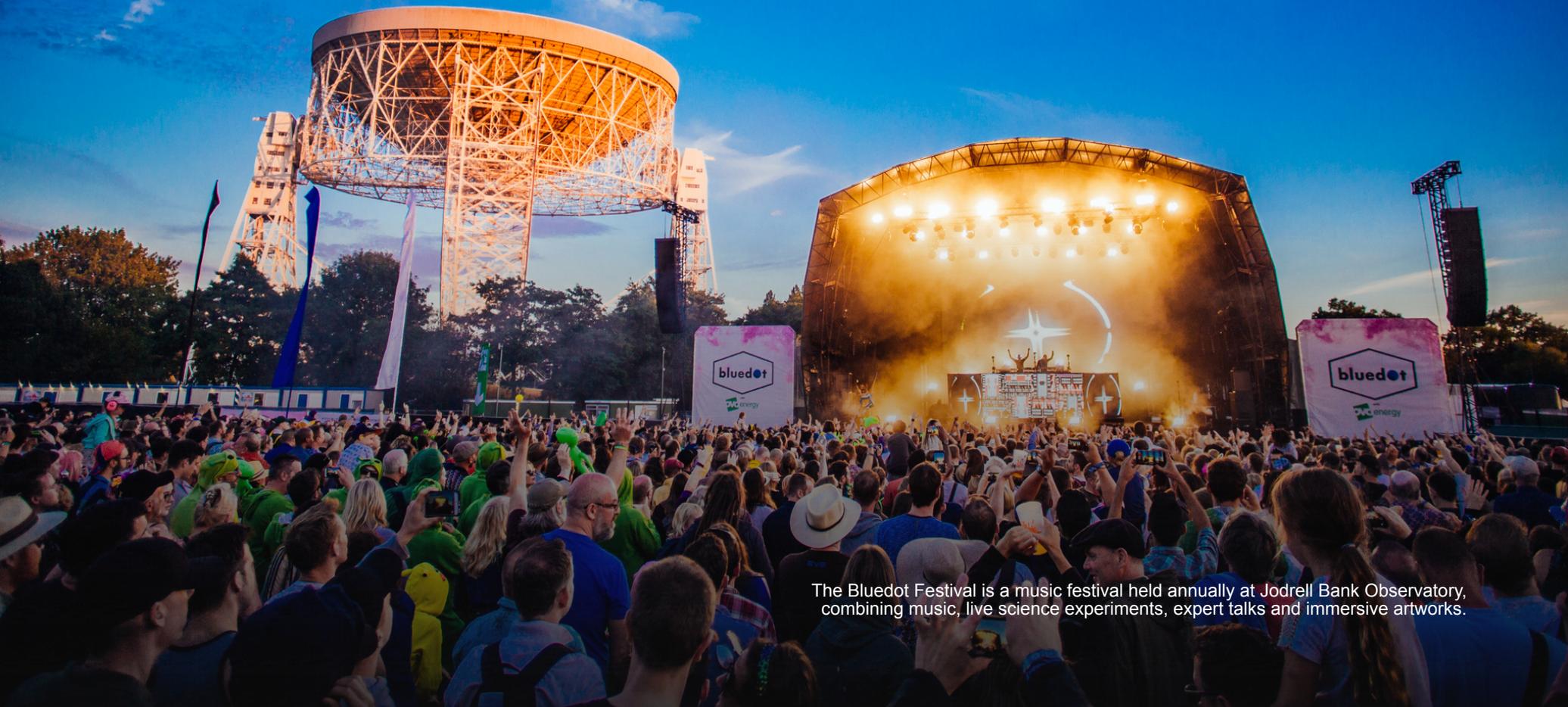
Greater Manchester

A vibrant destination

The Quays and MediaCityUK

Manchester

A vibrant destination



The Bluedot Festival is a music festival held annually at Jodrell Bank Observatory, combining music, live science experiments, expert talks and immersive artworks.

What to see & do in Manchester

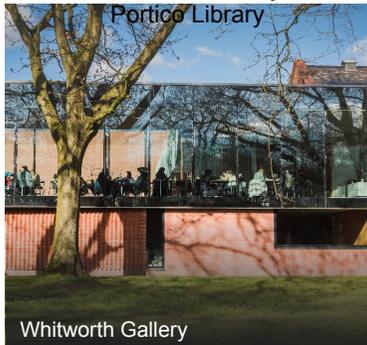


Museums & Galleries

Attendees have a huge choice of over 90 museums and galleries – most of which are free to enter.

.....
.....

- Science & Industry Museum
- Manchester Museum
- People's History Museum
- National Football Museum
- IWM North
- Manchester Art Gallery
- Whitworth Art Gallery
- The Lowry Gallery
- John Rylands Library
- Chethams Library
- Portico Library



Whitworth Gallery



Theatre & Live Music

Greater Manchester has music in its soul and opportunities to experience live music are as varied as they are exciting. The spectacular Bridgewater Hall is home to the Hallé Orchestra and welcomes musical talent from all over the world. Chamber music, folk, jazz, roots, rock and pop all have their place and major international acts perform regularly in the 20,000-seat Manchester Arena.

Attendees will find everything from opera to comedy to experimental theatre at the Palace Theatre, Royal Exchange, Contact Theatre and The Lowry.



The Lowry



Sport

Greater Manchester is known all around the world for its sporting prowess and the best sporting entertainment is to be found here.

However, it isn't all about football - with an extensive calendar of events and fixtures as well as top-quality facilities, there are bountiful opportunities for delegates to watch or take part in world-class sport.



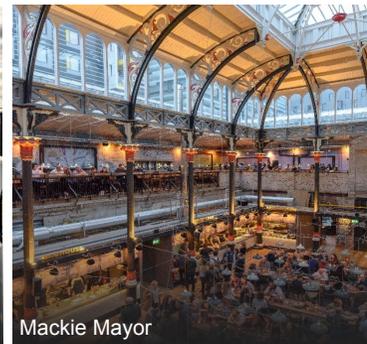
Manchester City Football Club



Food & Drink

Greater Manchester has a great reputation for its food and drink, offering cuisine from practically every nation and to suit any budget. From high-end restaurants and renowned chefs setting up camp here, to independent good value eateries, Greater Manchester has cemented itself as a culinary city

A visit to the region would not be complete without exploring some of the city's lively bars and clubs. Each area of the region boasts its own unique style and collection of bars, pubs and nightlife.



Mackie Mayor



Heritage

The city region's status as 'Cottonopolis' is on show for all to see, with Victorian textile warehouses and canal systems evident all over the region. Greater Manchester's medieval roots can be seen around the Shambles as well as the 500-year-old Manchester Cathedral and Chethams Library.

The best way for delegates to experience Manchester's rich history is by guided tour, and numerous tours led by expert guides can be booked – including bespoke tours themed to science and physics.



Castlefield



Shopping

Greater Manchester is the shopping capital of the North of England, offering a diverse and unique shopping experience.

From stylish shopping malls to specialist market stalls, quirky boutiques to vintage treasure troves, the city offers a unique and diverse shopping experience.



Family Friendly

For those delegates bringing their families there's lots of activities in Manchester suitable for the whole family such as the Sea Life Centre aquarium, the Transport Museum, Chester Zoo, Legoland Discovery Centre, an indoor snow park, indoor sky diving and our very own Crystal Maze.



Tours

Attendees arriving in Greater Manchester for the first time? For an entertaining insight into the stories which have shaped Greater Manchester and created the vibrant region that it is today, delegates can join one of Greater Manchester's many themed walking tours – a great way to discover the city and meet new people.

The Sightseeing Manchester hop-on, hop-off open top bus tour can take delegates on a 90-minute trip round Manchester's main sights on a route of 15 stops.



Homes & Gardens

For a bustling contemporary city, Greater Manchester and its surrounding areas have more gardens and parks than most, all of which are just a short journey from the city centre.

.....
.....
RHS Bridgewater (coming 2020) Dunham Massey Hall & Gardens
Tatton Park
Heaton Park
Lyme Park
Fletcher Moss
Ordsall Hall
Bramall Hall



Countryside

Greater Manchester has miles of inspiring countryside, crisscrossed by historical waterways and dotted with picturesque towns and fascinating attractions that make for a great day out from the hustle and bustle of the city.



Northern Quarter



Sea Life Centre Manchester



Sightseeing Manchester



Tatton Park





Networking

Social Programme

Venues for the social programme

Manchester has an extensive selection of venues capable of hosting social events. On the following two pages we set out our top suggestions.

We are keen to deliver a truly memorable social programme for all participants.

Our plan is to showcase the 'Best of British' by reflecting the traditions and local heritage of Manchester and the UK. Here are some suggested venues...



Science & Industry Museum

Manchester's Science & Industry Museum is situated on the site of the world's first inter-city passenger railway.

Its Revolution Manchester Gallery is a wonderful space to host social events. Guests can dine surrounded by fascinating exhibits which chronicle Manchester's contributions to the world of science and innovations.

-  City centre
-  450 – drinks reception
-  270 – banqueting



Whitworth Hall

The University of Manchester's neo-Gothic Whitworth Building is a real Manchester treasure.

This elegant, Grade II listed venue offers the stunning Whitworth Hall, which is ideal to host drinks receptions or conference dinners.

-  University campus
-  600 – Drinks reception
-  300 - Banqueting



The Monastery

The Monastery of St. Francis & Gorton Trust was established 21 years ago and is still responsible today for this iconic and magnificent building.

The transformation from a state of near dereliction to an award-winning events venue has been an incredible tale of almost miraculous achievement.

-  2 miles from city centre
-  600- Drinks reception
-  450 - Banqueting

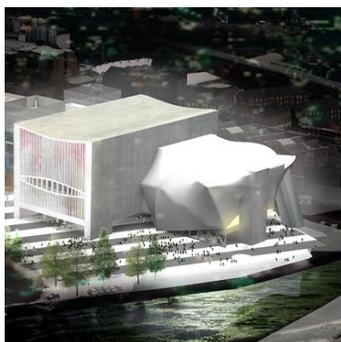


Manchester United

The world-renowned venue of Old Trafford, the home of Manchester United, is steeped in a history of sporting success and the perfect setting for any event.

Old Trafford is a completely unique venue with 20 suites and 150 meeting rooms. Many of the suites and rooms overlook the historic pitch. Packages can be tailored to include added extras such as the Museum & Stadium Tour.

-  2 miles from city centre
-  1,100 – Drinks reception
-  950 - Banqueting



The Factory

Due to open in 2020, The Factory will be a world-class cultural centre. It will be the permanent home of the Manchester International Festival and will host a year-round arts and performance programme, as well as offering flexible spaces for events.

-  City centre
-  Large-scale drinks receptions
-  Large-scale banqueting



Chetham's Library

Chetham's is a unique and atmospheric location, ideal for events from seminars and meetings to private dinners and concerts.

Dating back to 1421, Chetham's medieval buildings were built as a college for the priests of St Mary's Parish Church, now Manchester Cathedral. It is the most complete late-medieval residential complex to survive in the north west of England.

-  City centre
-  400 – Drinks reception
-  48 - Banqueting



Manchester Art Gallery

Manchester Art Gallery has a varied range of event spaces, from elegant cocktail parties amongst the Pre Raphaelite collections, to stylish dinner dances in the Modern Glass Atrium.

-  City centre
-  500 – Drinks reception
-  120 - Banqueting



National Football Museum

The National Football Museum is the largest museum dedicated to Football in the world. It is located in the iconic Urbis Building in Manchester's city centre.

Guests can access the extensive galleries on the history of the beautiful game.

-  City centre
-  400 – Drinks reception
-  220 - Banqueting



Pre & post

Excursions & day trips

Excursions

Greater Manchester's rich cultural and historical offerings present a range of exciting and engaging full and half-day excursion options, adding value for visitors.



Options within one hour of Manchester range from leisurely visits to the region's rich array of stately homes and gardens, to experiencing the vibrancy of the city and town centres.

Greater Manchester is perfectly placed to explore the rest of the UK. With Cheshire to the south, Merseyside to the west, Lancashire and Cumbria to the north and Derbyshire to the east, visitors are spoilt for choice.

Here are some suggestions for how the delights of Northern England and the rest of the UK can be incorporated into visitors' itineraries:



The Quays & MediaCityUK

Opened by Queen Victoria in 1894, the Salford Docks became the busiest in the UK, serving the ships that came up the Manchester Ship Canal.

Today, The Quays is Manchester's waterfront destination, the location of MediaCityUK, a huge purpose-built media hub that's home to the BBC and ITV, as well as world-class cultural attractions.

 15 minutes from the city centre

 Imperial War Museum North | The Lowry | The Lowry Outlet Mall | BBC Tours | Ordsall Hall | City Centre Cruises | Helly Hansen Watersports Centre

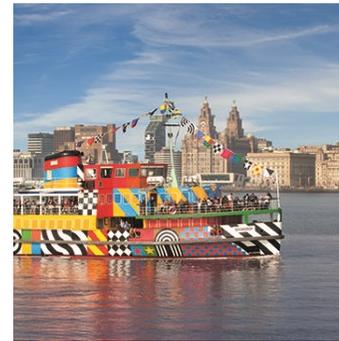


Football Fanatics Itinerary

Manchester is of course famous all over the world for its football and a visit to one of the city's football stadia is a must whether it's for a tour or the full match day experience. Delve into the social history and culture of the beautiful game, exploring football's past and present at the world's biggest and best football museum. Visitors can even go for full football emersion with an overnight stay at Hotel Football.

 City centre and within 15 minutes

 Premier League football matches at Old Trafford and The Etihad | Manchester United Museum and Tour | Manchester City Stadium Tour | National Football Museum | Hotel Football | Café Football | Watch a match in a traditional pub



Liverpool & The Beatles

Liverpool is world-famous as the home of The Beatles and visitors can relive the magic of the Beatles era with a visit to the Cavern Club or on a magical mystery tour. The city's maritime history is on display on its historic waterfront and the Albert Dock – a UNESCO World Heritage site. Liverpool's cultural highlights include Tate Liverpool, Walker Art Gallery and the Museum of Liverpool.

 45 minutes from Manchester

 The Beatles Story | Cavern Club | Albert Dock | Maritime Museum | Tate Liverpool | Walker Art Gallery | Museum of Liverpool | Mersey Ferries



The Lake District & Cumbria

The Lake District is the most famous national park in England. Its stunning waterfalls, lakes, mountains and areas of natural beauty inspired writers such as Beatrix Potter and Wordsworth.

Cumbria's scenery is truly unique, with picturesque towns, villages and castles. Fans of outdoor pursuits will find endless opportunities for hiking, mountain climbing, water sports and cycling.  hour 15 mins from Manchester

 Windermere Lake Cruises | World of Beatrix Potter | Wordsworth's houses | Muncaster Castle & Gardens | Grasmere Gingerbread Shop | Ullswater Steamers | Ravenglass & Eskdale Railway | Hill Top



Dunham Massey & Altrincham

A National Trust property set in the grounds of an 18th century house. Nearby is Altrincham, a bustling town with a popular indoor market and vintage fairs.

 25 minutes from Manchester city centre

 Dunham Massey House & Gardens | Dunham Massey Brewing Company | Red House Farm | Altrincham Market



RHS Bridgewater & Canal & Worsley

Currently the largest garden project in Europe, The RHS is transforming the 154 acre gardens of Worsley New Hall to their former glory and a top notch visitor attraction.

 45 minutes from Manchester city centre

 RHS Garden Bridgewater | Walled Garden | Worsley New Hall | Bridgewater Canal



Peak District & Chatsworth House

Contrasting natural beauty of moors, rivers and springs can all be found within the Peak District National Park, known and loved by millions for its breath-taking views.

 1 hour 10 mins from Manchester city centre

 Chatsworth House & Gardens | Lyme Park & Gardens | Underground caverns | Bakewell | Alton Towers Resort



Historic Chester

One of Britain's most popular cities, Chester has a bewitching beauty and unique atmosphere. Take a stroll around the most complete Roman and Medieval town wall in Britain.

 1 hour from Manchester city centre

 Roman heritage | City walls | River Dee cruise | House Races | Chester Zoo | Chester Rows



Tatton Park

Set in 1,000 acres of beautiful open Parkland, Tatton is regarded as one of the most complete historic estates in the country, with a Mansion, Tudor Old Hall and extensive gardens .

 1 hour from Manchester city centre

 Deer park | Formal Gardens | Working farm | Gardener's Cottage Tea Rooms | Japanese Garden



Jodrell Bank Radio Telescope

One of the largest radio telescopes in the world, visitors can discover the fascinating history of the Lovell Telescope at the Jodrell Bank Discovery Centre.

 1 hour from Manchester

 Jodrell Bank Discovery Centre | The Lovell Telescope | Gardens & Arboretum



East Lancashire Railway & Bury

Experience the sounds, smell and stunning surroundings of this heritage railway. Winding through the scenic Irwell Vale along a 12 mile journey past quaint villages and rural vistas.

 30 minutes from Manchester city centre

 Rail Ale Trail | Themed railway weekends | Bury Market | Fusilier Museum



Quarry Bank Mill

This former cotton mill is a National Trust property. It is a unique experience, demonstrating how cotton was processed at the height of the Industrial Revolution.

 50 minutes from Manchester city centre

 Mill House | Woodland Walks | Apprentice House | Working machinery



Medieval York, The Minster & Vikings

Renowned for its exquisite architecture, tangle of quaint cobbled streets, the iconic York Minster and a wealth of attractions, York is a flourishing

 1 hour from Manchester city centre

 York Minster | Yorvik Viking Centre | National Railway Museum | Castle Howard | Museum of York | River Ouse | Clifford's Tower



The Royal Armouries in Leeds

Leeds boasts a heady mix of arts, culture, heritage, shopping and a thriving food and drink scene.

 45 minutes from Manchester city centre

 The Royal Armouries | Kirkstall Abbey | Trinity Leeds | Harewood House



Lancashire and Lancaster

A county of contrasts, Lancashire has breathtaking countryside and is home to the UK's best-loved holiday resort – Blackpool.

 1 hour from Manchester city centre

 Lancaster Castle | Forest of Bowland | Pendle Hill | Blackpool Pleasure Beach



North Yorkshire Coast

The Yorkshire coastline encompasses some of the UK's most rugged and charming countryside, from tiny fishing villages clinging to rocky cliffs to glorious stretches of white sand and family-friendly resorts.

 2 hours from Manchester

 Whitby | Robin Hood's Bay | Scarborough | North York Moors | Cleveland Way | Staithes



Newcastle & Northumberland

Spectacular vistas, world-class culture, vibrant nightlife and inspiring heritage are linked here, as nowhere else, by the famous Geordie spirit.

 3 hours 15 mins from Manchester

 Angel of the North | Quayside and bridges | Baltic Centre | Bamburgh Castle | Alnwick Castle & Gardens



World of Wedgwood

Discover 250 years of design and production on a tour of the World of Wedgwood in the Potteries, the UK's centre of ceramic production since the 17th century.

 1 hour from Manchester city centre

 Factory tour | Wedgwood Museum | Luxury afternoon tea | 'throw' your own pot or design a plate



London

One of the world's most visited cities, London is just 2 hours from Manchester and has something for everyone, including history, culture and pomp and ceremony.

 2 hours 10 mins from Manchester

 Buckingham Palace | Tower of London | Tower Bridge | Hyde Park | Houses of Parliament | Big Ben | River Thames cruises | Tower Bridge | Museums and galleries



Scotland

With deserted beaches, nature reserves, mountains, lochs and forests, Scotland's legendary beauty brings visitors back again and again to experience its unique mix of rugged landscape and culture.

 3 hours from Manchester

 Edinburgh | Holyrood Palace | Glasgow | Loch Lomond | Golfing | Cairngorms | Loch Ness

Experienced hosts

As one of the UK's most dynamic cities, Manchester is a world centre for academic, business, cultural and sporting activity. As such Manchester has played host to major association conferences.

Here is a small sample of organisations that have chosen Manchester as their host destination.



EPS-HEP 2007
Chair: Stefan Söldner-Rembold



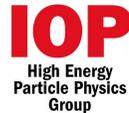
TAU 2010
Chair: George Lafferty



CHARM 2013
Chairs: Marco Gersabeck & Chris Parkes



SUSY 2014
Chair: Apostolos Pilaftsis



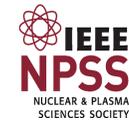
UK IOP-HEPP 2015
Chair: Stefan Söldner-Rembold



PASCOS 2019
Chair: Apostolos Pilaftsis



LIDINE 2019
Chair: Andrzej Szelc



IEEE NSS/MIC 2019
Chair: Cinzia Da Via



9-14 August 2021 in Manchester

L2021, Chair: Marco Gersabeck



Budget:

- We expect the conference to have a similar budget as PASCOS this year (which had the same format and similar attendance).
- About £300 (\$370) for registration fee (incl. reception, lunches, present, dinner, coffee).
- We hope to have other local UK universities co-sponsor the conference.