



# Knowledge at work

21–28 July 2013

# Summary Programme

See full programme at [ichstm2013.com/programme](http://ichstm2013.com/programme)

Blogs, audio and live streams at [ichstm2013.com/blog](http://ichstm2013.com/blog)



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ICHSTM 2013



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## MANY THANKS TO OUR SPONSORS FOR THEIR SUPPORT OF iCHSTM 2013:

International Union of History and Philosophy of Science  
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Visit Manchester

Centre for the History of Science, Technology and Medicine,  
Faculty of Life Sciences, University of Manchester

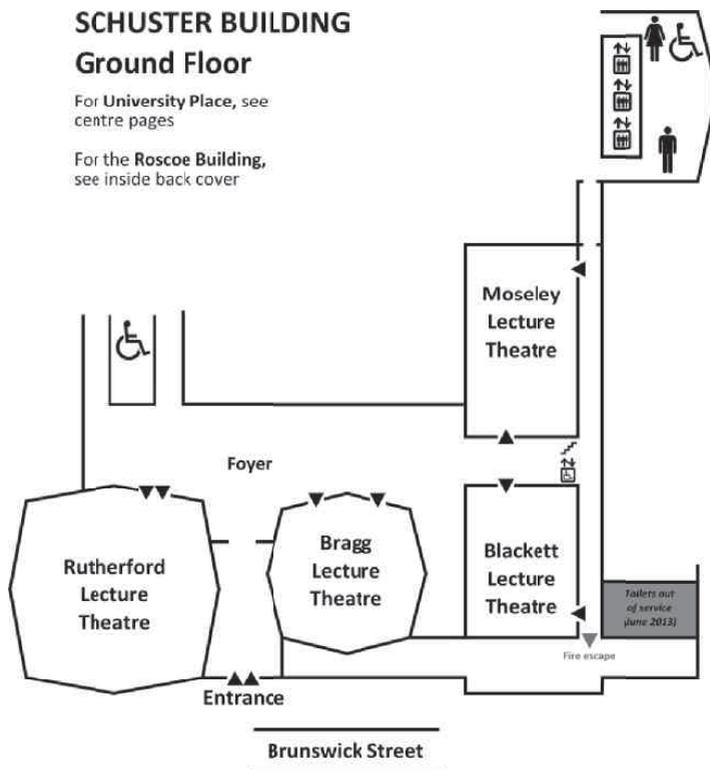
City of Helsinki ▪ History of Geology Group with INHIGEO ▪ Institute of Physics History of Physics Group ▪ Manchester Literary and Philosophical Society ▪ Manchester Metropolitan University ▪ Music Finland ▪ Newcomen: The International Society for the History of Engineering and Technology ▪ Notes and Records of the Royal Society ▪ Royal Society of Chemistry Historical Group ▪ Science Museum Group ▪ Society for the History of Alchemy and Chemistry ▪ Society for the History of Natural History ▪ Society for the History of Technology ▪ Society for the Social History of Medicine ▪ Waters Corporation

### SCHUSTER BUILDING

#### Ground Floor

For **University Place**, see  
centre pages

For the **Roscoe Building**,  
see inside back cover



## WELCOME TO iCHSTM 2013

On behalf of the British Society for the History of Science, I would like to welcome you all to the 24th International Congress of the History of Science, Technology and Medicine. The BSHS is proud to host the International Congress, in the United Kingdom for the third time, with support and encouragement from many other UK-based bodies. We have all appreciated this opportunity to contribute to the global development of our subject. The 2013 meeting promises to be the largest ever, with quality to match. Manchester is a very appropriate place for our meeting, with its rich and unique traditions of science, technology and medicine. Our colleagues on the Local Organising Committee have truly put their hearts and souls, as well as countless hours of work, into the preparation of this event, and I think you will be able to see evidence of the care and trouble they have taken. I hope your week at the Congress will be filled with stimulating discussions and congenial interactions with colleagues from many corners of the world.



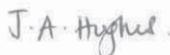
Hasok Chang

President

British Society for the History of Science

## WELCOME TO MANCHESTER

On behalf the Local Organising Committee for iCHSTM2013, it is a pleasure and a privilege to welcome iCHSTM delegates to the City and University of Manchester. For this exceptionally large meeting, we have tried to provide a wide variety of intellectual and social activities. With up to 24 parallel tracks, the academic programme is the heart of iCHSTM, and we hope it will stimulate lively discussion and debate both within and about our field. But iCHSTM also offers an extensive formal and informal social programme, from official receptions to HSTM-related music and comedy, and a wide range of HSTM-themed walks, tours and visits. And iCHSTM will actively use social media to promote our field to the wider world. We hope that iCHSTM2013 will be a Congress to remember, and that you enjoy your time in Manchester!



Jeff Hughes and James Sumner

Co-chairs

iCHSTM Local Organising Committee

## REGISTRATION

The registration desk (0161 306 4098) will be open Sunday 21 July from 15:00 to 19:00, Monday 22 July from 08:00 to 16:00, and from 08:30 to 16:00 Tuesday 23 July to Friday 26 July.

## FOOD AND DRINK

Delegates who pre-ordered lunches will find vouchers for these in their Congress packs. Vouchers for hot lunches may be used in the restaurant on the ground floor of University Place between 12:15 and 14:15, Monday to Saturday. **The restaurant will not be open for cash sales.** Pre-ordered packed sandwich lunches may be collected from the ground-floor Drum area of University Place starting at 12:15 each day. Delegates on the centrally-organised excursions (Jodrell Bank, Chatsworth House, Quarry Bank Mill) will have their takeaway lunches delivered directly to them on the excursion buses.

A limited range of hot and cold beverages and snacks is also available for purchase in the shop on the ground floor of University Place.

For suggestions of other nearby restaurants, cafés and food vendors, please see the Restaurants and Drinks Guides under ‘Manchester’ on the Congress website – or ask a Congress volunteer.

## EXCURSIONS, TOURS, SITE VISITS AND EVENT TICKETS

The Congress Events Desk on the ground floor of University Place is the central hub for information about social events, tours, walks, excursions, site visits, and Manchester sights in general.

If you have reserved a ticket for a social programme event, please collect it at the Events Desk.

If you booked a ticket for a centrally organised tour or excursion, please consult your Congress pack or the Congress website for information on these, including details of departure and return times, and the location of departure points.

Several museums and historic sites have reserved tours and special exhibits for Congress delegates. For more information about these or to sign up, please consult the Congress Events Desk.

The Congress Events Desk will be staffed

Sunday	15:00 - 18:00	Wednesday	09:00 – 16:00
Monday	10:30 - 16:00	Thursday	09:00 – 12:00
Tuesday	09:00 - 16:00	Friday	09:00 – 16:00

## ANNOUNCEMENTS AND PROGRAMME UPDATES

As far as is possible, announcements and updates to the Congress’s schedule will be made via the Congress’s website and Twitter feed (@ichstm2013), and also broadcast on plasma screens in University Place.

Also, keep an eye out for the Congress *Transmission*. This daily publication will recap the previous day’s events and highlight upcoming ones, and also provide information about any changes to the established programme. Print copies of *Transmission* will be available each day, starting Monday morning, in all three buildings where paper sessions are being held (University Place, Roscoe, and Schuster). *Transmission* will also be published on the Congress website each morning and sent to all delegates on the Congress email list.

## DISABILITY AND MOBILITY ASSISTANCE

Please ask at the registration desks for assistance.

## EXHIBITORS

Several publishers have exhibits in the ground-floor Drum area of University Place. The second-hand and antiquarian book display is in the foyer on Floor 1. (Please see the University Place floorplans in the centre of this booklet.)

Exhibits will be open the following hours, including during Monday's early drinks reception:

Monday	09:00 – 19:30	Thursday	09:00 – 16:00
Tuesday	09:00 – 17:30	Friday	09:00 – 17:30
Wednesday	09:00 – 17:30	Saturday	09:00 – 15:00

## CONNECTIVITY

A temporary user id and password for University of Manchester wifi is printed on the reverse side of each registered delegate's name badge. Eduroam is also available on most of campus.

## PRACTICAL NECESSITIES

*ATMs:* There are several cashpoints within a five- to ten-minute walk of University Place. The closest are at the NatWest bank branch, on the corner of Oxford Road and Dover Street; and inside the Spar convenience store (open 08:00 to 22:00) on the ground level of the Precinct Centre near the intersection of Oxford Road and Booth Street (please note that charges may apply for users of this ATM). Another ATM is at the Royal Bank of Scotland branch, just south of the Student Union.

*Chemists and pharmacies:* The small independent Faith Pharmacy deals mostly with over-the-counter medicines and sundries, and is open 09:00 – 18:30, Monday to Friday and Saturday 10:00 – 13:00. It is located at 59 Booth St West, just west of campus (phone 0161 232 8044). Spar and Sainsbury's (see 'convenience stores' below) also carry basic over-the-counter medicines. Several full-service pharmacies in the city centre have longer opening hours and pharmacists on staff who can give advice for minor conditions. These include branches of Boots in Piccadilly Train Station, on Portland St, and in Piccadilly Gardens, where there is also a large branch of Superdrug.

*Convenience stores and groceries:* the convenience store Spar is located on the ground level of the Precinct Centre, entrance next to Blackwell's, near the intersection of Oxford Road and Booth Street. A Sainsbury's mini grocery, open 07:00 – midnight 7 days a week, is located a few blocks south of University Place, near the intersection of Oxford Road and Grafton Street. Around the corner on Grafton Street is a bigger grocery, Morrisons, which is open 06:00-23:00 Monday to Saturday, and 12:00 - 18:00 on Sunday.

## EMERGENCY ASSISTANCE

In life-threatening and other serious situations, please dial 999 or 112, which reaches police, ambulance, and fire dispatch. (From University landlines, please dial 9999.)

For fast medical help and information about walk-in and urgent health care facilities, call NHS Direct at 111, or check [www.nhs.uk](http://www.nhs.uk).

If you need non-emergency police help on campus, contact University Security (0161 306 9966, or 69966 from a University landline); off campus, contact Greater Manchester Police by dialling 101.

## USING THIS SCHEDULE

This summary programme only lists times, locations, and brief titles for symposia, individual sessions, social and public events, meetings. For more detail, please consult the interactive online programme. (Some titles of symposia and sessions have been abbreviated for space.) Use the provided session number to find more information quickly in the larger programme.

Only the times and brief titles of walks, tours, excursions, and social programme events are listed here. For more information or to sign up, please consult the Congress Events Desk.

Sessions have been arranged with staggered start and end times, to facilitate the flow of traffic between sessions in Congress venues. In the early morning timeslot, for example, half the sessions start at 09:00, and the others at 09:10. Please observe the listed start and end times for sessions.

The letters prefixing the event codes have the following meanings:

**A:** plenary events

**C:** committee meetings

**E:** special sessions (discussion events, talks and film screenings)

**F:** lunchtime advice sessions aimed at graduate students and early-career researchers

**J:** formal social programme (receptions and Congress Dinner)

**K:** 'fringe', informal social programme (music and comedy)

**L:** public events

**M:** walks and tours on the University campus

**P:** organised symposia accepted by ICOHTEC

**Q:** sessions compiled from stand-alone papers accepted by ICOHTEC

**R:** other receptions

**S:** organised symposia accepted by the central Congress organisers

**T:** sessions compiled from stand-alone papers accepted by the central Congress organisers

**W:** sessions compiled from stand-alone papers accepted by the Scientific Instrument Commission  
Room locations are given with the building name first, followed by the room number. The lecture theatres in the Schuster Building are not numbered, but take their names from Manchester physicists: '**Schuster Rutherford**' refers to the Schuster Building's Rutherford Lecture Theatre, etc.

### Sunday afternoon

#### **Committee meeting**

**C271** DHST Council Meeting 1  
15:00-17:30 ■ Simon 2.57

### Sunday evening

#### **Reception**

Welcome reception  
18:00 – 20:00 ■ Manchester Museum

### Monday early morning

#### **Plenary session**

**A391** Congress opening and keynote  
08:45 – 10:30 ■ Uni Place Lecture Theatre A/B  
*Please arrive promptly.*

11:00 – 12:30

**S025-A Uni Place 2.218**

Headwinds through the Iron Curtain: fundamental and applied sciences in Communist Eastern Europe

**S045-A Roscoe 1.007**

Mathematical facets of measurement, measuring units, measured quantities and their uses ▪ How did actors compute with measured numbers? Part 1

**S072-A Uni Place 1.218**

Preserving scientific heritage to enable working with knowledge: preserving and disseminating scientific heritage via a global online system

**S075-A Uni Place 3.204**

Publishing the sciences ▪ Scientific intelligence and expertise

**S084-A Roscoe 2.4**

Social science, ideology, and public policy in the United States, 1961 to 2011

**S092-A Schuster Blackett**

Astronomy and its applications in ancient and medieval societies ▪ Astronomy and its cultural role in the ancient Near East

**S099-A Roscoe 2.2**

History of metrology: comparison between the West and the East ▪ Ancient metrology

**S114-A Roscoe 1.009**

Mathematics and patronage ▪ Eighteenth and nineteenth centuries

**T159-A Uni Place 4.204**

Place and affect in early-modern sciences ▪ Early modern

**T167-A Uni Place 4.206**

Working worlds of the twentieth-century biological sciences ▪ Pure and applied life sciences

**Committee meeting**

**C268** Science and Empire Commission business meeting  
11:00–13:00 ▪ Uni Place 4.212

**Off-site excursions and tours**

09:15–13:00 ▪ Jodrell Bank Observatory

11:10 – 12:40

**S017 Uni Place 3.205**

Boundaries at work: producing experimental and clinical knowledge of/with epilepsy in the nineteenth and twentieth centuries

**S058-A Uni Place 1.219**

Working in science and as art: twentieth-century 'experimental' relationships ▪ Demonstrating natures

**S062-A Roscoe 2.3**

Reworking the history of chemistry ▪ Practice: recovering early alchemy and chemistry

**S091-A Roscoe 2.5**

The achievements of R J Boscovich in the philosophy of nature, astronomy, technique and culture ▪ Philosophy of nature and modern science

**S105-A Schuster Moseley**

One hundred years of the Bohr atom ▪ Foundations

**S108-A Roscoe 1.010**

Knowledge at work in the oceans of the world ▪ Observers and instruments

**T163-A Roscoe 1.008**

Mapping, geography and geology ▪ The politics of mapping

**T181-A Uni Place 4.205**

Cultures of eighteenth- and nineteenth-century science and engineering ▪ Cultures of knowledge and practice

**Special session**

**E118-A** 40th anniversary history of ICOHTEC symposium ▪ Get socialised: ICOHTEC in the big picture  
11:10–12:40 ▪ Schuster Bragg

**Lunchtime advice sessions**

**F303** Why blog? An introduction  
13:00–13:45 ▪ Uni Place 4.205

**F311** Graduate student guide to Manchester  
13:00–13:45 ▪ Uni Place 4.204

**Nearby walks and tours**

12:00–13:00 ▪ Manchester Museum tour  
13:00–14:00 ▪ Manchester Museum tour  
13:00–13:45 ▪ Campus history walk: Physics  
13:00–13:45 ▪ Campus history walk: Turing

14:00 – 15:30

**S025-B Uni Place 2.218**

Headwinds through the Iron Curtain: fundamental and applied sciences in Communist Eastern Europe

**S045-B Roscoe 1.007**

Mathematical facets of measurement, measuring units, measured quantities and their uses ▪ How did actors compute with measured numbers? Part 2

**S072-B Uni Place 1.218**

Preserving scientific heritage to enable working with knowledge: preserving and disseminating scientific heritage via a global online system ▪ Sharing knowledge in context

**S075-B Uni Place 3.204**

Publishing the sciences ▪ Periodicals and popularisation

**S084-B Roscoe 2.4**

Social science, ideology, and public policy in the United States, 1961 to 2011

**S092-B Schuster Blackett**

Astronomy and its applications in ancient and medieval societies ▪ Instruments and inscriptions in Greco-Roman astronomy

**S099-B Roscoe 2.2**

History of metrology: a view of comparison between the West and the East ▪ Metrology and standardization

**S114-B Roscoe 1.009**

Mathematics and patronage ▪ Nineteenth and twentieth centuries

**T159-B Uni Place 4.204**

Place and affect in early-modern sciences ▪ Spaces and practical knowledge

**T167-B Uni Place 4.206**

Working worlds of the twentieth-century biological sciences ▪ Eugenicis

14:10 – 15:40

**S026-A Uni Place 3.205**

Pratiques et théories dans le champ de la santé mentale: quel(s) rapport(s)?

**S058-B Uni Place 1.219**

Working in science and as art: twentieth-century 'experimental' relationships ▪ Demonstrating technologies

**S062-B Roscoe 2.3**

Reworking the history of chemistry: practice, revolution, visualization and exchange ▪ Visualising: the matter of form in modern chemistry

**S086-A Uni Place 2.219**

Data at work ▪ Biology, agriculture and medicine

**S091-B Roscoe 2.5**

The achievements of R J Boscovich in the philosophy of nature, astronomy, technique and culture: historical resources and contemporary epistemic reflections ▪ Boscovich's heritage in the European context

**S105-B Schuster Moseley**

One hundred years of the Bohr atom ▪ Elucidations

**S108-B Roscoe 1.010**

Knowledge at work in the oceans of the world ▪ Expeditions

**T163-B Roscoe 1.008**

Mapping, geography and geology ▪ Geological travels

**T181-B Uni Place 4.205**

Cultures of eighteenth- and nineteenth-century science and engineering ▪ The machine

**Special session**

**E118-B** 40th anniversary history of ICOHTEC symposium ▪ From hardware to software: Changes in the ICOHTEC research agenda 14:10–15:40 ▪ Schuster Bragg

16:00 – 17:30

**S025-C Uni Place 2.218**

Headwinds through the Iron Curtain: fundamental and applied sciences in Communist Eastern Europe

**S045-C Roscoe 1.007**

Mathematical facets of measurement, measuring units, measured quantities and their uses ▪ How did actors use and discuss measuring units?

**S072-C Uni Place 1.218**

Preserving scientific heritage to enable working with knowledge: how historians, archivists and scientists can engage in preserving and disseminating scientific heritage via a global online system

**S075-C Uni Place 3.204**

Publishing the sciences ▪ Why publish?

**S084-C Roscoe 2.4**

Social science, ideology, and public policy in the United States, 1961 to 2011

**S092-C Schuster Blackett**

Astronomy and its applications in ancient and medieval societies ▪ European medieval astronomy and astrology

**S099-C Roscoe 2.2**

History of metrology: a view of comparison between the West and the East ▪ The modernization of metrology

**S114-C Roscoe 1.009**

Mathematics and patronage ▪ Twentieth century

**T159-C Uni Place 4.204**

Place and affect in early-modern sciences

**Special sessions**

**E118-C** 40th anniversary history of ICOHTEC symposium ▪ Long-term research themes 16:10–17:40 ▪ Schuster Bragg

**E302** Discussion: social media, public engagement and HSTM 16:10–17:40 ▪ Uni Place 1.219

**Nearby walks and tours**

17:45–18:30 ▪ Campus history walk

16:10 – 17:40

**S026-B Uni Place 3.205**

Pratiques et théories dans le champ de la santé mentale: quel(s) rapport(s)?

**S062-C Roscoe 2.3**

Reworking the history of chemistry: practice, revolution, visualization and exchange ▪ Exchange: global histories of chemistry

**S067 Roscoe 1.008**

Corps, santé, médecine et maladies en milieu de travail en Amérique latine, 19e et 20e siècles

**S086-B Uni Place 2.219**

Data at work ▪ Making coding cultures

**S105-C Schuster Moseley**

One hundred years of the Bohr atom ▪ Ramifications

**S108-C Roscoe 1.010**

Knowledge at work in the oceans of the world ▪ On the interpretation of in-situ data

**T181-C Uni Place 4.205**

Cultures of eighteenth- and nineteenth-century science and engineering ▪ Eighteenth- and nineteenth-century science and engineering

**Monday evening****Receptions**

UK learned societies' reception

18:00–19:30 ▪ Uni Place Drum

ICOHTEC anniversary reception

17:45–18:45 ▪ Schuster Foyer

iCHSTM tweetup

18:00–19:30 ▪ Ducie Arms

**Social programme**

Music: The Noisy Frame

21:00–22:30 ▪ Jabez Clegg

**Public event**

The Turing Machine Opera, with Decode/Recode

18:15–20:00 ▪ Capitol Theatre

09:00 – 10:30

**S011-A** **Uni Place 4.213**

Les sciences mathématiques 1750-1850: continuités et ruptures

**S020-A** **Uni Place 4.204**

Plant science and global food security in the twentieth century

**S051-A** **Roscoe 1.007**

Population control and reproductive health rights in Cold War Asia ▪ East Asia

**S087-A** **Roscoe 1.009**

Science and the emotions: transnational and interdisciplinary perspectives

**S092-D** **Schuster Blackett**

Astronomy and its applications in ancient and medieval societies ▪ Astronomy and its applications in western Asia and the Islamic world

**S112-A** **Uni Place 1.218**

Geology in art and literature ▪ The geological imagination

**S115-A** **Roscoe 2.4**

Mathematical knowledge at work in Ancient China

**P125** **Uni Place 4.206**

Enforced specialization in computing technology: debugging the history of cooperation and competition in COMECON countries

**W131-A** **Schuster Rutherford**

32nd Scientific Instrument Symposium ▪ Trade and transfer of scientific instruments, part 1

**T165-A** **Uni Place 3.204**

Contexts of natural history ▪ Botany books and careers in the eighteenth and nineteenth centuries

**T193-A** **Uni Place 2.218**

Science, technology and medicine in the public sphere ▪ Science, technology and medicine in the public sphere

09:10 – 10:40

**S002-A** **Uni Place 1.2**

Research in science museums: the state of art ▪ Museum-university collaborations: an ideal marriage?

**S033-A** **Uni Place 4.2**

Paris: capital of hygiene? ▪ Food, fitness, and fatality: hygiene and bodies

**S046-A** **Roscoe 1.0**

Visual communication in early-modern to modern learned journals

**S053-A** **Roscoe 1.0**

Knowledge at work across cultural boundaries

**S074-A** **Uni Place 4.2**

Connected histories? Science and technology from a new historiographical perspective

**S079-A** **Uni Place 3.2**

Materia medica and pharmacy: from the medicinal virtues to the active principles of plants

**S106-A** **Roscoe 1.0**

Philosophy at work in modern physics

**T182-A** **Uni Place 2.2**

Post-Second World War science and technology ▪ Postwar contexts

**S199-A** **Roscoe 1.0**

Science, technology and medicine in the Ottoman Empire

### *Committee meeting*

**C260** Oceanography Commission

09:10–10:40 ▪ Uni Place 4.214

### *Off-site excursions and tours*

09:15–13:00 ▪ Jodrell Bank Observatory

11:00 – 12:30

**S011-B Uni Place 4.213**

Les sciences mathématiques 1750-1850:  
continuités et ruptures

**S019 Uni Place 4.206**

The history of radio communications: how  
radio has transformed the world and  
exploration since David Livingstone

**S020-B Uni Place 4.204**

Plant science and global food security in the  
twentieth century

**S051-B Roscoe 1.007**

Population control and reproductive health  
rights in Cold War Asia ▪ South Asia

**S087-B Roscoe 1.009**

Science and the emotions: transnational and  
interdisciplinary perspectives

**S092-E Schuster Blackett**

Astronomy and its applications in ancient and  
medieval societies ▪ South and East Asian  
astronomy, part 1

**S100-A Roscoe 2.2**

Comparative perspectives on ancient  
astronomy ▪ Chinese calendar-making

**S112-B Uni Place 1.218**

Geology in art and literature ▪ Geology  
between Enlightenment and Romanticism

**S115-B Roscoe 2.4**

Mathematical knowledge in Ancient China

**W131-B Schuster Rutherford**

32nd Scientific Instrument Symposium ▪ Trade  
and transfer of scientific instruments, part 2

**T165-B Uni Place 3.204**

Contexts of natural history ▪ Spaces and  
places of natural history

**T193-B Uni Place 2.218**

STM in the public sphere ▪ Science and  
religion in local contexts

**Special session**

**E308** Victorian science spectacular  
11:00–12:30 ▪ Pear LT, Coupland 1 Bldg

**Off-site excursions and tours**

11:00–12:00 ▪ Ordsall Hall Gardens tour  
11:00–13:00 ▪ Cottonopolis walk

11:10 – 12:40

**S002-B Uni Place 1.219**

Research in science museums ▪ Artefacts and  
beyond: material culture research

**S033-B Uni Place 4.212**

Paris: capital of hygiene? ▪ Administering the  
hygienic city: regulation and reform

**S046-B Roscoe 1.008**

Visual communication in early-modern to  
modern learned journals

**S053-B Roscoe 2.3**

Knowledge at work across cultural boundaries

**S074-B Uni Place 4.205**

Connected histories? Science and technology  
from a new historiographical perspective

**S079-B Uni Place 3.205**

Materia medica and pharmacy: from  
medicinal virtues to active principles of plants

**S106-B Roscoe 2.5**

Philosophy at work in modern physics

**P123-A Schuster Bragg**

The invisible bicycle: new insights into bicycle  
history ▪ Patterns of growth and decline

**T182-B Uni Place 2.219**

Post-Second World War science and  
technology ▪ Organisations

**S199-B Roscoe 1.010**

STM in the Ottoman Empire

**Committee meetings**

**C264** Modern Physics Commission  
12:45–13:45 ▪ Roscoe 2.5

**C275** Tyndall Correspondence Project  
12:45–13:45 ▪ Uni Place 3.205

**Nearby walks and tours**

12:00–13:00 ▪ Manchester Museum tour

12:00–13:00 ▪ Museum Herbarium tour

13:00–13:45 ▪ Campus history walk: Chemistry

13:00–14:00 ▪ Manchester Museum tour

**Lunchtime advice sessions**

**F317** Careers and funding: academia,  
museums and public institutions  
13:00–13:45 ▪ Uni Place 4.205

**F312** Graduate student guide to Manchester  
13:00–13:45 ▪ Uni Place 4.204

14:00 – 15:30

**S016-A** **Roscoe 1.007**

Image-making and knowledge-making in early-modern Europe ▪ Images at work

**S037-A** **Uni Place 4.206**

Cornucopia or Pandora's box: digital working methods, web portals and VREs in the history of science and technology

**S040-A** **Uni Place 4.204**

Science in agriculture ▪ Remembering Rachel Carson: the Green Revolution and the politics of industrial agriculture

**S087-C** **Roscoe 1.009**

Science and the emotions: transnational and interdisciplinary perspectives

**S092-F** **Schuster Blackett**

Astronomy and its applications in ancient and medieval societies ▪ South and East Asian astronomy, part 2

**S100-B** **Roscoe 2.2**

Comparative perspectives on ancient astronomy ▪ Greek tradition in various cultures

**S112-C** **Uni Place 1.218**

Geology in art and literature ▪ Geology and nineteenth-century fiction

**S115-C** **Roscoe 2.4**

Mathematical knowledge in Ancient China

**W131-C** **Schuster Rutherford**

32nd Scientific Instrument Symposium ▪ The bigger, the better: physics and astronomy

**T155-A** **Uni Place 4.213**

Early-modern mathematics ▪ Working cultures of early modern-European maths

**T165-C** **Uni Place 3.204**

Contexts of natural history ▪ Local contexts for natural history

**T193-C** **Uni Place 2.218**

STM in the public sphere ▪ Public cultures of nineteenth-century science

**Off-site excursions and tours**

13:30–15:30 ▪ John Dalton walk

14:00–16:30 ▪ Manchester peace and justice trail guided walk

15:00–15:30 ▪ Imperial War Museum tour

14:10 – 15:40

**S002-C** **Uni Place 1.219**

Research in science museums ▪ Using the Web and social media to extend the traditional aims of museums

**S027-A** **Uni Place 3.205**

Cross-cultural transmissions of medical knowledge in premodern Asia

**S060-A** **Roscoe 1.010**

The transmission of medical knowledge in the Islamic world

**S063-A** **Roscoe 1.008**

The paper world of science in the age of industry and Empire ▪ Communicating through manuscript and print

**S065** **Roscoe 2.3**

Knowledge between transmission and local cultural boundaries: migrating scientists and physicians in the twentieth century

**S073-A** **Uni Place 4.212**

Medical knowledge at the colonial work front: health reports as research tools ▪ Writing knowledge: colonial physicians

**S106-C** **Roscoe 2.5**

Philosophy at work in modern physics

**T182-C** **Uni Place 2.219**

Post-Second World War science and technology ▪ The politics of STM in the European context

**Special sessions**

**E301** The future of journals in HSTM  
14:10–15:40 ▪ Uni Place 4.214

**E309-A** Manchester in HSTM ▪ Using campus heritage for public history: cases and issues  
14:10–15:40 ▪ Uni Place 4.205

**Committee meetings**

**C265** IASCUD Executive Committee 1  
14:00–15:30 ▪ Simon Building, Room 2.57

**C261-A** ICOHTEC Executive Committee  
14:10–15:40 ▪ Schuster Bragg

16:00 – 17:30

**S016-B Roscoe 1.007**

Image-making and knowledge-making in early-modern Europe ▪ Colour matters

**S037-B Uni Place 4.206**

Cornucopia or Pandora's box: digital working methods, web portals and VREs in the history of science and technology

**S040-B Uni Place 4.204**

Science in agriculture: interactions of science, agriculture and environment ▪ Agricultural science: interactions between agricultural problems and theoretical knowledge

**S092-G Schuster Blackett**

Astronomy and its applications in ancient and medieval societies ▪ South and East Asian astronomy, part 3

**S112-D Uni Place 1.218**

Geology in art and literature ▪ The art of geological mapping

**W131-D Schuster Rutherford**

32nd Scientific Instrument Symposium ▪ Understanding instruments of physics through re-use and replication

**T152 Roscoe 1.009**

Gender at work

**T155-B Uni Place 4.213**

Early-modern mathematics ▪ Non-western mathematics in translation and appropriation

**T165-D Uni Place 3.204**

Contexts of natural history ▪ Animals, monsters, and culture

**Special session****E309-B** Manchester in HSTM ▪ Roundtable discussion: Manchester topics and contexts  
16:10–17:40 ▪ Uni Place 4.205**Committee meetings****C261-B** ICOHTEC Executive Committee  
16:10–17:40 ▪ Schuster Bragg**C281** IASCUD General Assembly  
16:10–17:40 ▪ Uni Place 4.214

16:10 – 17:40

**S002-D Uni Place 1.219**

Research in science museums: the state of the art ▪ Developing a public history of STM

**S027-B Uni Place 3.205**

Cross-cultural transmissions of medical knowledge in premodern Asia

**S060-B Roscoe 1.010**

The transmission of medical knowledge in the Islamic world

**S063-B Roscoe 1.008**

The paper world of science in the age of industry and Empire ▪ Newspaper networks

**S073-B Uni Place 4.212**

Medical knowledge at the colonial work front: health reports as research tools ▪ Writing, counting and accounting for public health: empire, state and nation

**S106-D Roscoe 2.5**

Philosophy at work in modern physics

**T182-D Uni Place 2.219**

Post-Second World War science and technology ▪ The nuclear Pacific

**Public event****L345** Strange Ice

16:00–17:30 ▪ Room G51, Chemistry Building

**Nearby walks and tours**

17:45–18:30 ▪ Campus history walk

**Tuesday evening****Reception**

Civic reception

19:00–21:00 ▪ Manchester Town Hall

**Social programme**

Comedy: XS Malarkey

20:00–22:30 ▪ Jabez Clegg

**Public events**

The Turing Machine Opera, with Decode/Recode

18:15–20:00 ▪ Capitol Theatre

Victorian science spectacular

19:30–21:00 ▪ Portico Library

09:00 – 10:30

**S015-A Roscoe 1.009**

Novel expertise and emerging specialists

**S022-A Uni Place 4.204**

From natural history to ecology: towards a comparative history of life sciences in the long nineteenth century

**S029-A Roscoe 1.007**

Visual, material and empirical culture in early-modern Iberian science: artifacts, regiments, vessels, nautical charts, natural specimens, cosmographers, naturalist and pilots

**S031-A Uni Place 4.213**

The contribution of Friedrich Engels in the history of science and technology ▪ The actuality of Engels' work

**S064-A Uni Place 3.204**

Science × Medicine: Promiscuous objects, entangled problems

**S069-A Roscoe 2.2**

Putting the human sciences to work in the twentieth century ▪ Governing minds and bodies with the human sciences

**S092-H Schuster Blackett**

Astronomy and its applications in ancient and medieval societies ▪ Ptolemy Graecus, Arabus, Latinus, part 1

**S096-A Roscoe 2.4**

The making of transnational science: scientific contacts between China and the West during the late Qing and Republican China

**S112-E Uni Place 1.218**

Geology in art and literature ▪ Communicating geological knowledge

**T190-A Uni Place 2.218**

Literary approaches in HSTM ▪ Literary approaches

### Committee meeting

**C253** Scientific Instrument Commission  
09:00–10:30 ▪ Schuster Rutherford

### Off-site excursions and tours

09:15–13:00 ▪ Jodrell Bank Observatory

09:10 – 10:40

**S035 Roscoe 1.008**

Image and context: visual representations and the boundaries of scientific practice

**S036-A Uni Place 3.205**

Systems biology: a paradigm at work?

**S060-C Roscoe 1.010**

The transmission of medical knowledge in the Islamic world

**S088-A Roscoe 2.3**

Expanding women's sphere: knowledge and the re-definition of women's work in the twentieth century

**S107-A Roscoe 2.5**

Poincaré's *Méthodes nouvelles de la mécanique céleste* in historical context ▪ Wireless technology and theory, 1896-1914

**S111-A Uni Place 1.219**

Geography and its publics ▪ Multiple publics, part 1

**P120-A Schuster Moseley**

Eighth annual symposium on the social history of military technology, incorporating the Gunpowder Study Group ▪ Premodern military technology

**P123-B Schuster Bragg**

The invisible bicycle: new insights into bicycle history ▪ Adoption, appropriation, demonstration

**T183-A Uni Place 4.205**

Twentieth-century sciences in comparative (inter)national contexts ▪ Mid twentieth-century applied sciences

**T201-A Uni Place 4.214**

History of technology ▪ Ships

**T204-A Uni Place 4.212**

Science and technology museums in context ▪ Science and technology collections

### Special session

**E047-A** Historical and contemporary communications technologies in Africa: case study in Cameroon ▪ Generating knowledge  
09:10–10:40 ▪ Uni Place 2.219

11:00 – 12:30

**S015-B Roscoe 1.009**

Novel expertise and emerging specialists

**S022-B Uni Place 4.204**

From natural history to ecology: towards a comparative history of life sciences in the long nineteenth century

**S029-B Roscoe 1.007**

Visual, material and empirical culture in early-modern Iberian science

**S031-B Uni Place 4.213**

The contribution of Friedrich Engels in the history of science and technology ▪ Analyzing Engels' work

**S039-A Uni Place 4.206**

Literary history and the history of science ▪ Scientific institutions and literary culture

**S064-B Uni Place 3.204**

Science × Medicine: Promiscuous objects, entangled problems

**S069-B Roscoe 2.2**

Putting the human sciences to work ▪ Culture and constructing citizens with the human sciences

**S092-J Schuster Blackett**

Astronomy and its applications in ancient and medieval societies ▪ Ptolemy Graecus, Arabus, Latinus, part 2

**S096-B Roscoe 2.4**

The making of transnational science: scientific contacts between China and the West during the late Qing and Republican China

**W131-E Schuster Rutherford**

32nd Scientific Instrument Symposium ▪ The ravages of time

**T190-B Uni Place 2.218**

Literary approaches in HSTM ▪ Literary sources in HSTM

**Special sessions****E307** Screening: John Milne documentary  
11:00–12:30 ▪ Uni Place 1.218**E047-B** Historical and contemporary communications technologies in Africa: case study in Cameroon ▪ Using knowledge  
11:10–12:40 ▪ Uni Place 2.219

11:10 – 12:40

**S036-B Uni Place 3.205**

Systems biology: a paradigm at work?

**S088-B Roscoe 2.3**

Expanding women's sphere: knowledge and the re-definition of women's work

**S107-B Roscoe 2.5**Poincaré's *Méthodes nouvelles de la mécanique céleste* in historical context ▪ Early applications of *Méthodes nouvelles***S111-B Uni Place 1.219**

Geography and its publics ▪ Multiple publics

**P120-B Schuster Moseley**

Eighth annual symposium on social history of military technology incorporating Gunpowder Study Group ▪ Early modern guns and forts

**P123-C Schuster Bragg**

The invisible bicycle: new insights into bicycle history ▪ Cycling down by the memory lane

**T177-A Roscoe 1.008**

Images and models in modern medicine ▪ Visual cultures in modern medicine

**T183-B Uni Place 4.205**

Twentieth-century sciences in comparative (inter)national contexts ▪ UK state institutions

**T200 Roscoe 1.010**

Islamic science, technology and medicine

**T201-B Uni Place 4.214**

History of technology ▪ Aeronautics and infrastructures

**T204-B Uni Place 4.212**

Science and technology museums in context ▪ Museum, history and nation

**Nearby walks and tours**

12:00–13:00 ▪ Manchester Museum tour

**Off-site excursions and tours**

12:00–13:00 ▪ Working Class Movement Library tour

**Lunchtime advice sessions****F315** Publishers' advice: thesis to book  
13:00–13:45 ▪ Uni Place 4.206**F318** Careers and funding: public engagement  
13:00–13:45 ▪ Uni Place 4.205

14:00 – 15:30

**S022-C Uni Place 4.204**

From natural history to ecology: towards a comparative history of life sciences in the long nineteenth century

**S039-B Uni Place 4.206**

Literary history and the history of science ▪ Literary knowledge, scientific knowledge, and literary form

**S059-A Roscoe 1.009**

Space at work ▪ Space programmes and nuclear technology

**S071-A Roscoe 2.2**

The science of man? Bounds of knowledge in the twentieth century

**S076-A Roscoe 1.007**

Theology at work in science / Science at work in theology

**S089-A Uni Place 3.204**

Beyond the animal model: Linking humans and animals in modern medicine

**S098-A Roscoe 2.4**

Religion and natural knowledge in East Asian encounters with Europe, 1600-1800

**S129-A Schuster Blackett**

Islamic astronomy in its cultural context ▪ Cosmography and hay'a

**W131-F Schuster Rutherford**

32nd Scientific Instrument Symposium ▪ Instruments for exploration

**T186 Uni Place 4.213**

Ecology, conservation, environment

**T192-A Uni Place 2.218**

Medicine and the media

**Nearby walks and tours**

13:00–14:00 ▪ Manchester Museum tour

13:00–14:30 ▪ Campus history walk: North Campus

**Committee meeting**

**C272** DHST General Assembly 1  
14:00–17:30 ▪ Uni Place LT A and B

14:10 – 15:40

**S010-A Roscoe 1.010**

The introduction of mathematics in Iberoamerica ▪ Foundations of mathematics

**S021-A Uni Place 4.212**

Industrial heritage and history of technology in the Luso-Brazilian world

**S023-A Uni Place 2.219**

Wiring intelligence

**S081-A Roscoe 2.5**

Between physics and technology: the inter-war embodiment of knowledge

**S110-A Roscoe 2.3**

Homemade science: domestic sites and the gendering of knowledge

**S111-C Uni Place 1.219**

Geography and its publics ▪ Geopolitics and exploration, part 1

**P120-C Schuster Moseley**

Eighth annual symposium on social history of military technology incorporating the Gunpowder Study Group ▪ Nineteenth-century military technology

**P121 Schuster Bragg**

Men, knowledge and technologies in the development of the modern oil industry up to the early decades of the twentieth century

**T177-B Roscoe 1.008**

Images and models in modern medicine ▪ Models and worldviews

**T183-C Uni Place 4.205**

Twentieth-century sciences in comparative (inter)national contexts ▪ Modern French science: economy and institutions

**T201-C Uni Place 4.214**

History of technology ▪ Knowledge transfer in universities and industry

**Off-site excursions and tours**

13:30–16:30 ▪ Heritage bus trip/Museum of Transport

14:00-15:00 ▪ People's History Museum tour

14:00-16:00 ▪ Manchester 'smellwalk'

15:00–15:30 ▪ Imperial War Museum North tour

16:00 – 17:30

**S022-D Uni Place 4.204**

From natural history to ecology: towards a comparative history of life sciences in the long nineteenth century

**S039-C Uni Place 4.206**

Literary history and the history of science ▪ Historicism in science and literature

**S059-B Roscoe 1.009**

Space at work ▪ Space programmes and the environment

**S071-B Roscoe 2.2**

The science of man? Bounds of knowledge in the twentieth century

**S076-B Roscoe 1.007**

Theology at work in science / Science at work in theology

**S089-B Uni Place 3.204**

Beyond the animal model: Linking humans and animals in modern medicine

**S098-B Roscoe 2.4**

Religion and natural knowledge in the East Asian encounter with Europe, 1600-1800

**S129-B Schuster Blackett**

Islamic astronomy in its cultural context ▪ Observational astronomy and its applications

**W131-G Schuster Rutherford**

32nd Scientific Instrument Symposium ▪ Instruments and public health

**T151 Uni Place 4.213**

Philosophical issues

**T192-B Uni Place 2.218**

Medicine and the media

**Special session**

**E343** Of music, engineers and drugs: when Cottonopolis became Madchester  
16:00–17:30 ▪ Uni Place 1.218

**Committee meeting**

**C272** DHST General Assembly 1  
14:00–17:30 ▪ Uni Place LT A and B

**Nearby walks and tours**

17:45–18:30 ▪ Campus history walk

16:10 – 17:40

**S010-B Roscoe 1.010**

The introduction of mathematics in Iberoamerica (part II)

**S021-B Uni Place 4.212**

Industrial heritage and history of technology in the Luso-Brazilian world

**S023-B Uni Place 2.219**

Wiring intelligence

**S081-B Roscoe 2.5**

Between physics and technology: embodiment of knowledge in the inter-war period

**S110-B Roscoe 2.3**

Homemade science: domestic sites and the gendering of knowledge

**S111-D Uni Place 1.219**

Geography and its publics ▪ Geopolitics and exploration, part 2

**P120-D Schuster Moseley**

Eighth annual symposium on the social history of military technology, incorporating the Gunpowder Study Group ▪ The era of the First World War

**T177-C Roscoe 1.008**

Images and models in modern medicine ▪ Medical techniques and medical knowledge

**Wednesday evening****Receptions**

*Annals of Science* anniversary reception (invitation only)

17:30–19:00 ▪ Uni Place 4.209

Women in Science Research Network launch  
18:30–20:30 ▪ Manchester Museum

**Social programme**

Comedy: Bright Club

21:00–22:30 ▪ Jabez Clegg

**Special session**

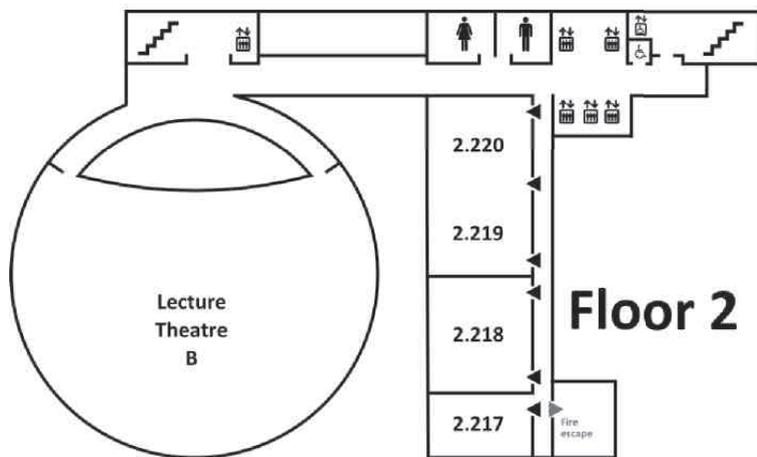
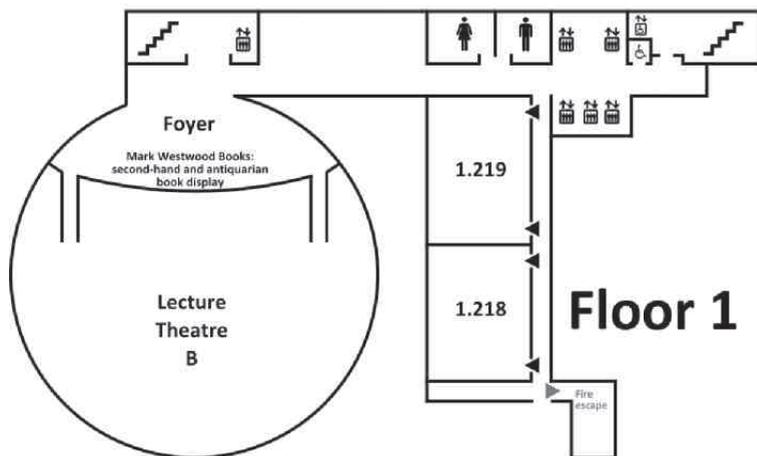
**E336** Film screening: *A City Speaks* (1947)  
18:00–19:30 ▪ Schuster Bragg

**Public event**

Chemists, brewers and beer-doctors  
20:00–20:45 ▪ Jabez Clegg

# Ground

Entrance  
Oxford

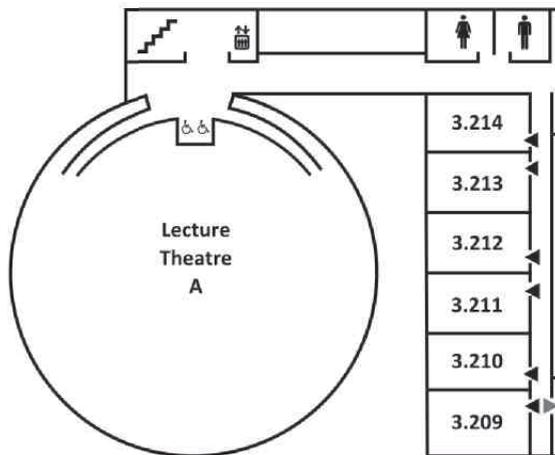


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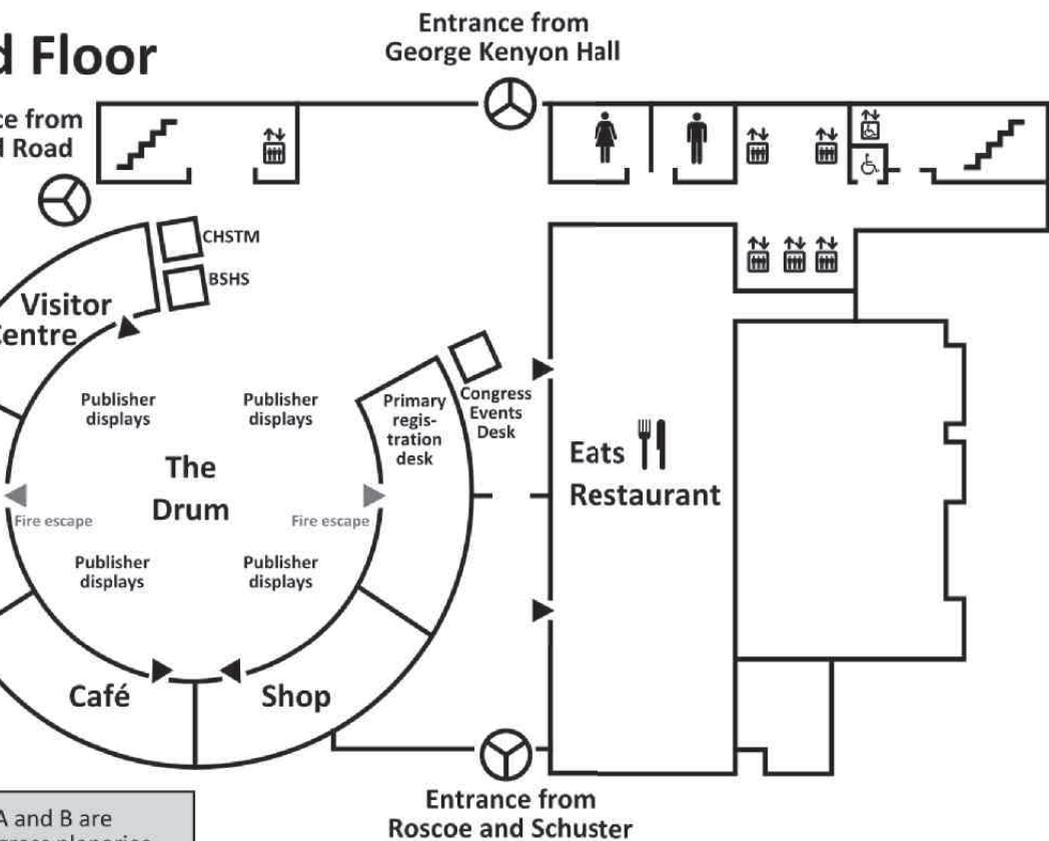
# UNIVERSITY PLACE

For the **Schuster Building**, see inside front cover

For the **Roscoe Building**, see inside back cover

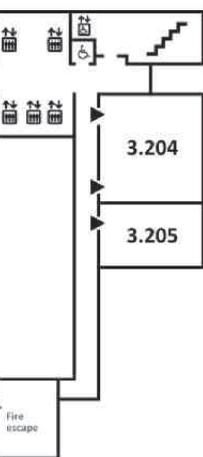


# 1st Floor

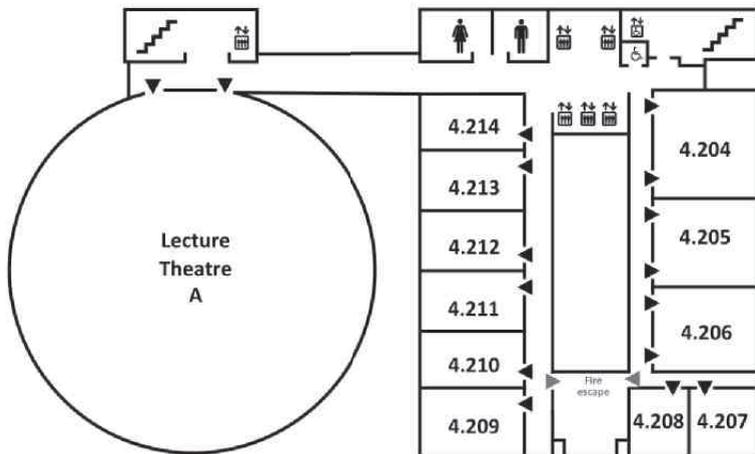


A and B are congress plenaries for 1, 2, 3 or 4.

# Floor 3



# Floor 4



09:00 – 10:30

**S001-A** **Roscoe 1.009**

Knowledge preserved, knowledge lost: challenges in collecting and interpreting material culture of science and technology ▪ Knowledge preserved

**S008-A** **Uni Place 3.204**

*Science as Public Culture* revisited ▪ Institutions

**S009** **Roscoe 2.2**

Leonardo da Vinci and the history of science

**S034-A** **Uni Place 4.206**

From patronage to biotech: new perspectives on medicine and commerce

**S043-A** **Uni Place 1.218**

Creating facts: disputed knowledge-claims in the nineteenth century ▪ Establishing and standardizing knowledge

**S055-A** **Uni Place 4.204**

Putting knowledge to war: research, development and the image of science in the First World War

**S070-A** **Roscoe 1.007**

Transferring and forming pharmaceutical knowledge: from practical work to academic disciplines and back, from the seventeenth to twenty-first centuries ▪ Documenting pharmaceutical knowledge

**S095-A** **Uni Place 2.218**

Using modern computing power to analyse and explicate ancient astronomical sources: opportunities and challenges

**S117-A** **Roscoe 2.4**

The institutionalization of mathematics and the founding of national societies

**W131-H** **Schuster Rutherford**

32nd Scientific Instrument Symposium ▪ Innovative optical instruments

**T153-A** **Uni Place 4.213**

New themes and approaches in science studies ▪ Interdisciplinarity

09:10 – 10:40

**S012-A** **Roscoe 1.010**

Arabic foundations of science ▪ Demonstration and empiricism in Avicenna

**S014-A** **Roscoe 2.5**

Fossil work: making paleontological specimens and knowledge

**S042-A** **Uni Place 4.205**

Practising photography in the sciences

**S048** **Uni Place 4.212**

Putting Chinese natural knowledge to work in the long eighteenth century

**S078-A** **Uni Place 2.219**

Collecting and using oral histories of science and technology: international perspectives

**S082-A** **Roscoe 1.008**

Ideological blueprints: rational choice, equilibrium and planned development in economics ▪ Equilibrium and rational choice

**S093-A** **Roscoe 2.3**

New perspectives on classification and methodology in history of science: theoretical and technological bases for managing primary sources

**S111-E** **Uni Place 1.219**

Geography and its publics ▪ Geographical education and knowledge, part 1

**S116-A** **Uni Place 3.205**

The history and philosophy of mathematical optimization

**P120-E** **Schuster Moseley**

Eighth annual symposium on the social history of military technology, incorporating the Gunpowder Study Group ▪ Between the wars

**Q127-A** **Schuster Bragg**

ICOHTEC special topics in the history of technology

**T160-A** **Uni Place 4.214**

Topics in nineteenth-century physics ▪ Eighteenth- and nineteenth-century physical sciences

**Off-site excursions and tours**

09:15–13:00 ▪ Jodrell Bank Observatory

09:30–17:30 ▪ Chatsworth House

## 11:00 – 12:30

**S001-B Roscoe 1.009**

Knowledge preserved, knowledge lost: challenges in collecting and interpreting material culture ▪ Knowledge lost

**S008-B Uni Place 3.204**

*Science as Public Culture* revisited ▪ Media

**S034-B Uni Place 4.206**

From patronage to biotech: new perspectives on medicine and commerce

**S043-B Uni Place 1.218**

Creating facts: disputed knowledge-claims in the nineteenth century ▪ Communicating and disputing knowledge-claims

**S055-B Uni Place 4.204**

Putting knowledge to war: research, development and the image of science in the First World War

**S070-B Roscoe 1.007**

Transferring and forming pharmaceutical knowledge: from practical work to academic disciplines and back ▪ Transferring pharmaceutical knowledge

**S095-B Uni Place 2.218**

Using modern computing power to analyse and explicate ancient astronomical sources: opportunities and challenges

**S117-B Roscoe 2.4**

The institutionalization of mathematics and the founding of national societies

**W131-J Schuster Rutherford**

32nd Scientific Instrument Symposium ▪ Mathematical instruments for royalty and the rich

**T153-B Uni Place 4.213**

New themes and approaches in science studies ▪ Current problems and approaches

**T162 Roscoe 2.2**

Aspects of the history of modern chemistry

**Nearby walks and tours**

12:00–13:00 ▪ Manchester Museum tour

**Off-site excursions and tours**

11:00–17:00 ▪ Godlee Observatory (sign up for specific time slot)

## 11:10 – 12:40

**S012-B Roscoe 1.010**

Arabic foundations of science ▪ Foundations of science from Avicenna onwards

**S014-B Roscoe 2.5**

Fossil work: making paleontological specimens and knowledge

**S042-B Uni Place 4.205**

Practising photography in the sciences

**S078-B Uni Place 2.219**

Collecting and using oral histories of science and technology: international perspectives

**S082-B Roscoe 1.008**

Ideological blueprints: rational choice, equilibrium and planned development in economics ▪ Beyond, before and beneath planned welfare

**S093-B Roscoe 2.3**

New perspectives on classification and methodology in history of science: theoretical and technological bases for managing primary sources

**S111-F Uni Place 1.219**

Geography and its publics ▪ Geographical education and knowledge, part 2

**S116-B Uni Place 3.205**

The history and philosophy of mathematical optimization

**P120-F Schuster Moseley**

Eighth annual symposium on social history of military technology incorporating Gunpowder Study Group ▪ WWII military technology

**Q127-B Schuster Bragg**

ICOHTEC special topics in the history of technology ▪ Knowing users: social demands in shaping technology and designing products

**T160-B Uni Place 4.214**

Topics in nineteenth-century physics ▪ Discipline and metrology

**Lunchtime advice sessions**

**F316** Metrics and journal rankings workshop  
13:00–13:45 ▪ Uni Place 4.204

**F319** Careers and funding: policy advisors and history  
13:00–13:45 ▪ Uni Place 4.205

**Thursday afternoon**

**Plenary session**

**A392** IAHS keynote address and prize award ceremonies

14:00–15:30 ▪ Schuster Rutherford

**Committee meetings**

**C283** Teaching Commission  
12:45–13:45 ▪ Uni Place 3.205

**C274** IAHS General Assembly  
15:45–17:45 ▪ Schuster Rutherford

**Nearby walks and tours**

13:00–13:45 ▪ Campus history walk

13:00–14:00 ▪ Manchester Museum tour

13:00–14:00 ▪ Manchester Museum herbarium tour

14:00–16:00 ▪ University of Manchester Museum of Medicine and Health collections

**Off-site excursions and tours**

*For detailed information, departure locations, and/or directions to venues for the excursions and tours below, please see the Congress website and/or the Congress Events Desk.*

*Spaces on these excursions and tours are limited, and you must sign up in order to attend. To sign up for an excursion or tour if you have not done so already, please consult the Congress Events Desk.*

11:00–17:00 ▪ Godlee Observatory (sign up for specific time slot)

12:00–13:00 ▪ Working Class Movement Library tour

12:45–17:30 ▪ Quarry Bank Mill and Styal Estate excursion

13:00–15:30 ▪ Modernist Manchester walk

13:30–15:30 ▪ Police Museum tour

14:00–15:00 ▪ People’s History Museum tour

14:00–15:30 ▪ Chetham’s Library tour

14:00–16:30 ▪ Victorian and Edwardian Manchester guided walk

14:00–16:30 ▪ Manchester peace and justice trail guided walk

14:00–17:00 ▪ Museum of Science and Industry tours and ‘meet the curators and archivists’ sessions

14:30–16:00 ▪ National Media Museum tour, Bradford\*

14:30–16:30 ▪ National Railway Museum tour, York\*

15:00–15:30 ▪ Imperial War Museum North tour

*\* The National Media Museum (Bradford) and National Railway Museum (York) are located 1-2 hours from Manchester by train. You will need to make your own travel arrangements so as to be on site when the tours begin. Consult the Congress Events Desk for more information and assistance.*

**Thursday evening**

**Reception**

Museum of Science and Industry reception  
19:00–21:00 ▪ Museum of Science and Industry

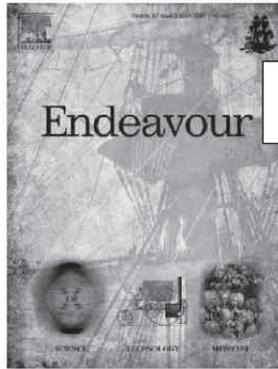
**Social programme**

Music: Dave Haslam, Hacienda DJ, presents “Madchester”: Music from the Manchester icons of the 1980s  
21:00–23:00 ▪ Jabez Clegg



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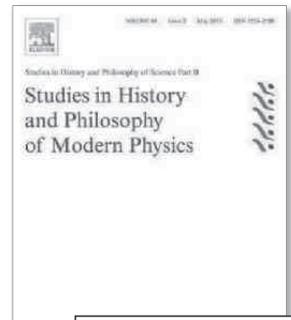
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09:00 – 10:30

**S044-A Uni Place 4.213**

Forensic histories: global perspectives ▪  
 Spaces and traces: global takes on forensic  
 investigation in the late nineteenth and early  
 twentieth centuries

**S097-A Roscoe 2.2**

From antiquity to tradition? Innovation and  
 the past in East Asian science, technology and  
 medicine, from the seventeenth to the  
 twentieth century ▪ Antiquity and tradition  
 before the colonial eras

**S102-A Uni Place 2.218**

The historical and cultural dimensions of  
 Islamic science ▪ Transmission of knowledge  
 over time and between cultures

**S103-A Uni Place 1.218**

Gaining it / losing it/ regaining it(?) Knowledge  
 production in climate science, status anxiety,  
 and authority across disciplines ▪ Climates of  
 conquest? Anxieties about climate variability  
 and change in Africa, the Americas, Asia and  
 Australia

**S117-C Roscoe 2.4**

The institutionalization of mathematics and  
 the founding of national societies

**W131-K Schuster Rutherford**

32nd Scientific Instrument Symposium ▪  
 Heritage and collections

**T161-A Schuster Blackett**

Modern physics and astronomy at work ▪  
 Twentieth-century astronomy

**T166-A Roscoe 1.007**

Eighteenth- and nineteenth-century biological  
 sciences ▪ Networks of circulation and  
 exchange

**T170 Uni Place 4.204**

Medicine and colonialism

**T195-A Roscoe 1.009**

Science education ▪ The role of HSTM in  
 teaching to scientists, medics and engineers

09:10 – 10:40

**S005-A Roscoe 2.3**

Mathematics and machines: explorations of  
 machine-assisted mathematics since 1800 ▪  
 Approaching machines and mathematics

**S007-A Uni Place 4.205**

Dynamics of knowledge: how technologies  
 evolve, triumph and die ▪ What is progress?

**S066-A Uni Place 2.219**

Planet Earth, the environment, and the Cold  
 War ▪ A 'Red' International Geophysical Year?

**S104-A Roscoe 1.010**

Materials and chemistry from bench to brand  
 and back ▪ Early synthetic materials

**S113-A Uni Place 1.219**

Geologists in the field ▪ Methodology of  
 fieldwork

**P120-G Schuster Moseley**

Eighth annual symposium on the social history  
 of military technology, incorporating the  
 Gunpowder Study Group ▪ Weapons of mass  
 destruction

**T158-A Roscoe 1.008**

Knowledge and experiment in natural  
 philosophy ▪ Working with Newton: contexts  
 of Newtonianism in the eighteenth century

**T175-A Uni Place 3.205**

Contemporary medical practice and ethics

**Committee meetings****C251 Women and Gender Studies**

Commission

09:00–10:30 ▪ Uni Place 3.204

**C255 CHAMA**

09:10–12:40 ▪ Roscoe 2.5

**C257 History of Geography IUC**

09:10–10:40 ▪ Uni Place 4.214

**Off-site excursions and tours**

09:15–13:00 ▪ Jodrell Bank Observatory

11:00 – 12:30

**S044-B Uni Place 4.213**

Forensic histories: global perspectives ▪  
 Questions of expertise: experts in criminal  
 investigations and criminal trials

**S094-A Uni Place 3.204**

History of science and the ecology of  
 knowledge: the limitations, expectations, and  
 needs of four knowledge communities

**S097-B Roscoe 2.2**

From antiquity to tradition? Innovation and  
 the past in East Asian science, technology and  
 medicine, from the seventeenth to the  
 twentieth century ▪ Transmission and  
 traditions: East Asian versus Western  
 technology and medicine

**S102-B Uni Place 2.218**

The historical and cultural dimensions of  
 Islamic science ▪ Medicine in context

**S103-B Uni Place 1.218**

Gaining it / losing it/ regaining it(?) Knowledge  
 production in climate science, status anxiety,  
 and authority across disciplines ▪ Narratives  
 on climate and water

**S117-D Roscoe 2.4**

The institutionalization of mathematics and  
 the founding of national societies

**W131-L Schuster Rutherford**

32nd Scientific Instrument Symposium ▪ The  
 big picture: documenting and displaying  
 historic instruments and their makers

**T161-B Schuster Blackett**

Modern physics and astronomy at work ▪  
 Theory in early twentieth-century physics

**T166-B Roscoe 1.007**

Eighteenth- and nineteenth-century biological  
 sciences ▪ The history and philosophy of  
 biology

**T191 Roscoe 1.009**

Science and art

**T197-A Uni Place 4.206**

History and historiography of HSTM ▪ Histories  
 of the history of STM

11:10 – 12:40

**S005-B Roscoe 2.3**

Mathematics and machines: explorations of  
 machine-assisted mathematics since 1800 ▪  
 Numerical mathematics and analog  
 computing

**S007-B Uni Place 4.205**

Dynamics of knowledge: how technologies  
 evolve, triumph and die ▪ Constructing  
 technologies

**S066-B Uni Place 2.219**

Planet Earth, the environment, and the Cold  
 War ▪ Resources and national security

**S104-B Roscoe 1.010**

Materials and chemistry from bench to brand  
 and back ▪ Late advanced materials

**S113-B Uni Place 1.219**

Geologists in the field ▪ The importance of  
 place

**P120-H Schuster Moseley**

Eighth annual symposium on the social history  
 of military technology, incorporating the  
 Gunpowder Study Group ▪ Cold War military  
 technology

**T158-B Roscoe 1.008**

Knowledge and experiment in natural  
 philosophy ▪ Sixteenth- and seventeenth-  
 century natural philosophy

**T175-B Uni Place 3.205**

Contemporary medical practice and ethics

**Committee meetings****C255 CHAMA**

09:10–12:40 ▪ Roscoe 2.5

**C263 Pacific Circle Commission**

11:10–12:40 ▪ Uni Place 4.214

**Nearby walks and tours**

12:00–13:00 ▪ Manchester Museum tour

**Off-site excursions and tours**

12:00–13:00 ▪ Working Class Movement  
 Library tour

14:00 – 15:30

**S030-A** **Roscoe 1.009**

Is it the medium? Ways of communicating science in twentieth-century Europe ▪ Print, radio, news-reel

**S056-A** **Uni Place 4.213**

Medical knowledge traditions at work

**S094-B** **Uni Place 3.204**

History of science and the ecology of knowledge: the limitations, expectations, and needs of four knowledge communities

**S097-C** **Roscoe 2.2**

From antiquity to tradition? Innovation and the past in East Asian STM ▪ Antiquity, tradition and self-construction in the age of nationalism, part 1

**S102-C** **Uni Place 2.218**

The historical and cultural dimensions of Islamic science ▪ Mathematics, physics, and the heavens

**S103-C** **Uni Place 1.218**

Gaining it / losing it/ regaining it(?) Knowledge production in climate science ▪ Working atmospheres: histories of climate, technology and economics

**T161-C** **Schuster Blackett**

Modern physics and astronomy at work ▪ Techniques in modern physics

**T166-C** **Roscoe 1.007**

Eighteenth- and nineteenth-century biological sciences ▪ Philosophy, race, ethnography

**T172-A** **Uni Place 4.204**

The politics of public health ▪ Public cultures of nineteenth-century medicine

**T197-B** **Uni Place 4.206**

History and historiography of HSTM ▪ Nineteenth- and twentieth-century humanities and social sciences

### **Committee meetings**

**C254** Meteorology Commission  
12:45–13:45 ▪ Uni Place 1.218

**C275** BSHS EGM  
12:45–13:45 ▪ Schuster Blackett

**C269** History of Astronomy IUC  
15:00–15:30 ▪ Uni Place 4.212

14:10 – 15:40

**S005-C** **Roscoe 2.3**

Mathematics and machines: explorations of machine-assisted mathematics ▪ Mathematics through the machine's eye: digital computing

**S066-C** **Uni Place 2.219**

Planet Earth, the environment, and the Cold War ▪ Environmental monitoring and the ideological battlefield

**S104-C** **Roscoe 1.010**

Materials and chemistry from bench to brand and back ▪ Infrastructure, instruments & ideas

**S113-C** **Uni Place 1.219**

Geologists in the field ▪ Constraints on fieldwork

**T158-C** **Roscoe 1.008**

Knowledge and experiment in natural philosophy ▪ Prints, texts and readings

**T178-A** **Uni Place 4.205**

Science, medicine, industry and markets ▪ Medicine, science and industry

**T179-A** **Uni Place 3.205**

Bio/medical practices

**T196-A** **Uni Place 4.214**

Pedagogy and textbooks ▪ Mathematical and technical pedagogy

### **Special sessions**

**E337** Nineteenth-century geological sections viewing  
13:00–13:30 ▪ Uni Place 1.219

**E310** The tables turned: Victorian séance event  
14:00–15:30 ▪ Pear LT, Coupland 1 Bldg

### **Nearby walks and tours**

13:00–14:00 ▪ Manchester Museum tour

13:00–13:45 ▪ Campus history walk: Physics

### **Off-site excursions and tours**

14:00–15:00 ▪ People's History Museum tour

14:00–15:00 ▪ Salford Museum and Art Gallery: Victorian street tour

15:00–15:30 ▪ Imperial War Museum North tour

16:00 – 17:30

**S030-B Roscoe 1.009**

Is it the medium? Ways of communicating science in twentieth-century Europe ▪ Exhibition, museum, TV

**S056-B Uni Place 4.213**

Medical knowledge traditions at work

**S103-D Uni Place 1.218**

Gaining it / losing it/ regaining it(?) Knowledge production in climate science, status anxiety, and authority across disciplines ▪ Climate change discourse and the IPCC

**T172-B Uni Place 4.204**

The politics of public health ▪ Topics in eighteenth-century medicine

**T176 Roscoe 2.2**

East Asian medicine

**T197-C Uni Place 4.206**

History and historiography of the history of science, technology and medicine ▪ Professional issues in HSTM

**Special sessions**

**E300** Neu-Whitrow Bibliography Prize presentation and Commission on Bibliography and Documentation business meeting  
16:00–17:30 ▪ Uni Place 3.204

**E306** Screening: Ernest Rutherford documentary  
16:00–17:30 ▪ Schuster Blackett

**Committee meetings**

**C258** CHOSTIS  
16:00–17:30 ▪ Uni Place 2.218

**C262** History of Mathematics IUC  
16:10–17:40 ▪ Uni Place 2.219

**C267** ICOHTEC General Assembly  
16:00–17:30 ▪ Schuster Rutherford

**C282** IASCUD Executive Committee 2  
16:10–17:40 ▪ Uni Place 4.212

**C266** East Asia Commission  
17:45–19:00 ▪ Room 2.57, Simon Building

16:10 – 17:40

**S005-D Roscoe 2.3**

Mathematics and machines: explorations of machine-assisted mathematics since 1800 ▪ Programming mathematics on digital computers

**S104-D Roscoe 1.010**

Materials and chemistry from bench to brand and back ▪ Modelling natural materials

**S113-D Uni Place 1.219**

Geologists in the field ▪ Fieldwork case studies

**T178-B Uni Place 4.205**

Science, medicine, industry and markets ▪ Medical markets

**T179-B Uni Place 3.205**

Bio/medical practices

**T196-B Uni Place 4.214**

Pedagogy and textbooks ▪ Educational contexts

**Nearby walks and tours**

17:45–18:30 ▪ Campus history walk: Chemistry

**Friday evening****Receptions**

Manchester Lit and Phil reception (follows Rutherford documentary screening)  
17:30–18:45 ▪ Schuster Foyer

History of Mathematics IUC reception  
17:30–18:45 ▪ Uni Place Restaurant

**Social programme**

Music: Email Special jazz troupe  
21:00–23:00 ▪ Jabez Clegg

**Public events**

BSHS Dingle Prize lecture: David Wright, *Downs: the history of a disability*  
18:00–19:00 ▪ Kanaris Lecture Theatre, Manchester Museum

The tables turned: Victorian séance event  
19:30–21:00 ▪ Portico Library

09:00 – 10:30

**S003-A Roscoe 1.009**

Historical development, contemporary investigations and perspectives of the logical and philosophical foundations of STM ▪ The logical foundations of scientific knowledge

**S004 Uni Place 2.218**

Colonial science at work

**S052-A Uni Place 4.206**

The work of medical schools since the Second World War: the reconfiguration of knowledge, practice and pedagogy ▪ The identity, space and organization of medical education

**S077-A Uni Place 1.218**

Transnational nuclear perspectives

**S101-A Roscoe 2.4**

Ancient cultural and technological interactions between East and West along the Silk Road

**T157-A Roscoe 2.2**

Pre-modern astronomy and cosmology ▪ Early astronomical contexts

**T180-A Uni Place 3.204**

Scientific expeditions, travels and colonialism ▪ Colonial expeditions

**T202 Uni Place 4.204**

Information technology, communications, networks

**T203-A Roscoe 1.007**

Technical cultures of practice and knowledge ▪ Pre- and early-modern texts and technologies

09:10 – 10:40

**S006-A Roscoe 1.010**

Empires of longitude: international perspectives on navigation, mapping and science ▪ State interests

**S018-A Roscoe 2.5**

Global Spencerism

**S028-A Roscoe 1.008**

Genetics, eugenics and culture: transatlantic perspectives, 1900-2000

**S061-A Roscoe 2.3**

Re-creating past science and technology

**S113-E Uni Place 1.219**

Geologists in the field ▪ Travels and new worlds

**P119-A Schuster Moseley**

Everlasting bath: the history of sauna technology and culture ▪ Technological basis and social context

**Q127-C Schuster Bragg**

ICOHTEC special topics in the history of technology ▪ Just applied science? The origins of technological knowledge

**T156-A Uni Place 4.212**

Topics in the history of modern mathematics ▪ Mathematical institutions and communities in modern Brazil

**T171-A Uni Place 4.205**

Medical authority boundaries and medical knowledge ▪ Eighteenth- and nineteenth-century medicine

**T174-A Uni Place 2.219**

Twentieth-century medicine ▪ Cancer

11:00 – 12:30

**S003-B Roscoe 1.009**

Historical development, contemporary investigations and perspectives of the logical and philosophical foundations of STM ▪ Philosophico-methodological problems of mathematics and physics in the process of their historical development

**S052-B Uni Place 4.206**

The work of medical schools since the Second World War: the reconfiguration of knowledge, practice and pedagogy ▪ Policy and specialisms in medical education

**S077-B Uni Place 1.218**

Transnational nuclear perspectives

**S101-B Roscoe 2.4**

Ancient cultural and technological interactions between East and West along the Silk Road

**T157-B Roscoe 2.2**

Pre-modern astronomy and cosmology ▪ Astronomy and instruments in Asian contexts

**T180-B Uni Place 3.204**

Scientific expeditions, travels and colonialism ▪ Eighteenth- and nineteenth-century colonialism and travel

**T184 Uni Place 2.218**

International organisations in twentieth-century STM

**T203-B Roscoe 1.007**

Technical cultures of practice and knowledge ▪ Skills, knowledges and practical work

11:10 – 12:40

**S006-B Roscoe 1.010**

Empires of longitude: international perspectives on navigation, mapping and science ▪ Knowledge in circulation

**S018-B Roscoe 2.5**

Global Spencerism

**S028-B Roscoe 1.008**

Genetics, eugenics and culture: transatlantic perspectives, 1900-2000

**S061-B Roscoe 2.3**

Re-creating past science and technology

**S113-F Uni Place 1.219**

Geologists in the field ▪ Landscapes and meaning

**P119-B Schuster Moseley**

Everlasting bath: the history of sauna technology and culture ▪ Cultural heritage and scientific knowledge

**P132 Schuster Bragg**

Sonic skills at work: listening as an entrance to knowledge acquisition

**T156-B Uni Place 4.212**

Topics in the history of modern mathematics ▪ Biographies and contexts in history of maths

**T171-B Uni Place 4.205**

Medical authority boundaries and medical knowledge ▪ Medical boundaries and disputes

**T174-B Uni Place 2.219**

Twentieth-century medicine ▪ Asian, Pacific and Western medicine

***Committee meeting***

**C252** Modern Chemistry Commission  
11:10–12:40 ▪ Uni Place 4.214

14:00 – 15:30

**S003-C** **Roscoe 1.009**

Historical development, contemporary investigations and perspectives of the logical and philosophical foundations of STM ▪ Epistemological and ontological aspects of scientific knowledge

**S038-A** **Uni Place 4.204**

“A work to be done”: the manual and the cognitive in early-modern science

**S049-A** **Uni Place 3.204**

Science and optical media: imaging technologies, knowledge formation and the rise of the scientific imagination ▪ Optical media and scientific practices

**S077-C** **Uni Place 1.218**

Transnational nuclear perspectives

**T157-C** **Roscoe 2.2**

Pre-modern astronomy and cosmology ▪ Astronomy: techniques of the east and west

**T173-A** **Uni Place 4.206**

Medical ethics and psychology ▪ Institutions and ethics

**T185-A** **Uni Place 2.218**

STM and the state ▪ Science, medicine and the authoritarian state

**T195-B** **Roscoe 2.4**

Science education ▪ Translating science across borders: the role of textbooks

**T203-C** **Roscoe 1.007**

Technical cultures of practice and knowledge ▪ Contexts of innovation

### *Committee meetings*

**C273** DHST General Assembly 2  
14:00–17:30 ▪ Uni Place LT A and B

**C256** INHIGEO  
14:10–17:40 ▪ Roscoe 2.3

14:10 – 15:40

**S006-C** **Roscoe 1.010**

Empires of longitude: international perspectives on navigation, mapping and science ▪ Navigation, encounter and exchange

**S018-C** **Roscoe 2.5**

Global Spencerism

**S028-C** **Roscoe 1.008**

Genetics, eugenics and culture: transatlantic perspectives, 1900-2000

**S054** **Uni Place 4.214**

Alchemy: the relationship between working and knowing from late antiquity to the seventeenth century

**P124** **Schuster Moseley**

Generating knowledge in practice: experiments in the building sector

**P133** **Schuster Bragg**

Knowledge for use: universities, industry and roots of the knowledge economy

**T154-A** **Uni Place 1.219**

Sources and biography

**T156-C** **Uni Place 4.212**

Topics in the history of modern mathematics ▪ Nineteenth- and twentieth-century mathematics

**T171-C** **Uni Place 4.205**

Medical authority boundaries and medical knowledge ▪ Medical boundaries of authority and expertise

**T174-C** **Uni Place 2.219**

Twentieth-century medicine ▪ Institutions

### *Nearby walks and tours*

13:00–14:30 ▪ Campus history walk: Biology and medicine

### *Off-site excursions and tours*

15:00–15:30 ▪ Imperial War Museum North tour

16:00 – 17:30

**S038-B** **Uni Place 4.204**

"A work to be done": the manual and the cognitive in early-modern science

**S049-B** **Uni Place 3.204**

Science and optical media: imaging technologies, knowledge formation and the rise of the scientific imagination ▪ Scientific images and the scientific imagination

**S077-D** **Uni Place 1.218**

Transnational nuclear perspectives

**T173-B** **Uni Place 4.206**

Medical ethics and psychology ▪ Late twentieth-century psychology and psychiatry

**T185-B** **Uni Place 2.218**

STM and the state ▪ Postwar physical sciences

**T195-C** **Roscoe 2.4**

Science education ▪ Science and education

**T203-D** **Roscoe 1.007**

Technical cultures of practice and knowledge ▪ Science and technology across boundaries

**Committee meetings****C273** DHST General Assembly 2  
14:00–17:30 ▪ Uni Place LT A and B**C256** INHIGEO  
14:10–17:40 ▪ Roscoe 2.3**Nearby walks and tours**

17:45–18:30 ▪ Campus history walk

16:10 – 17:40

**S018-D** **Roscoe 2.5**

Global Spencerism

**T154-B** **Uni Place 1.219**

Sources and biography

**T156-D** **Uni Place 4.212**

Topics in the history of modern mathematics ▪ Problems in the history of maths in the long nineteenth century

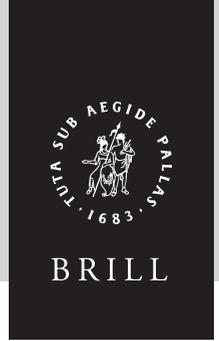
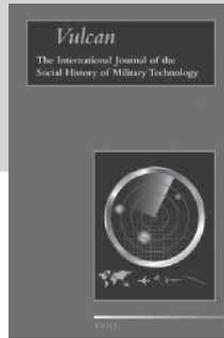
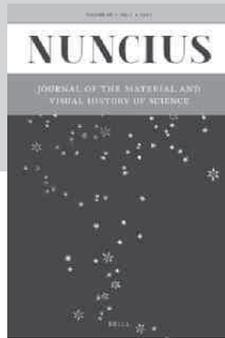
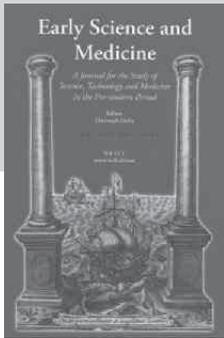
**T171-D** **Uni Place 4.205**

Medical authority boundaries and medical knowledge ▪ Knowledge-making in modern medicine

**T210** **Uni Place 2.219**

Islamic science and medicine

**Saturday evening****Social programme**Congress dinner  
19:00–22:00 ▪ Manchester United Football Club*Buses depart University Place for pre-dinner tours of Old Trafford at 17:00 and 17:30. Those delegates attending for only the Congress dinner should catch the buses departing at 18:30.***Sunday****Plenary****A399** DHST and BSHS Young Scholars' Prize presentations and Congress closing ceremony  
09:30–12:00 ▪ Uni Place LT A and B**Committee meetings****C284** DHST Council 2 (incoming and outgoing Council)  
08:30–09:30 ▪ Room 2.57, Simon Building



## Early Science and Medicine

*A Journal for the Study of Science, Technology and Medicine in the Pre-modern Period*

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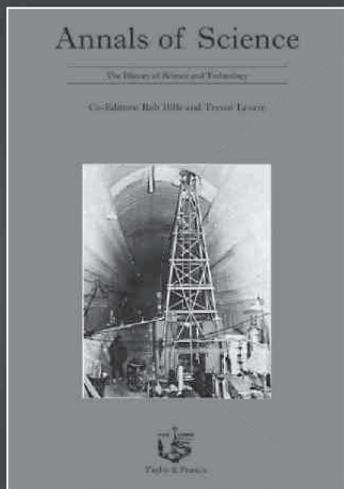


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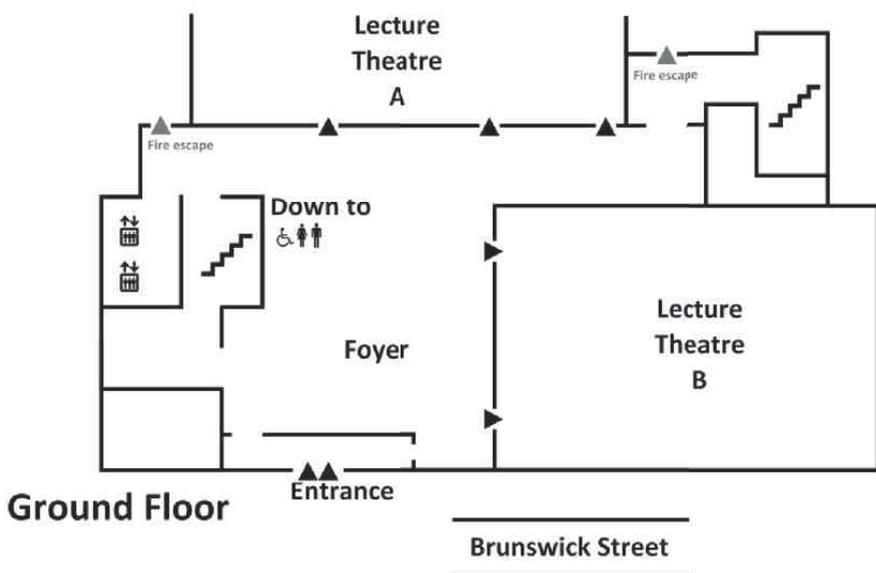
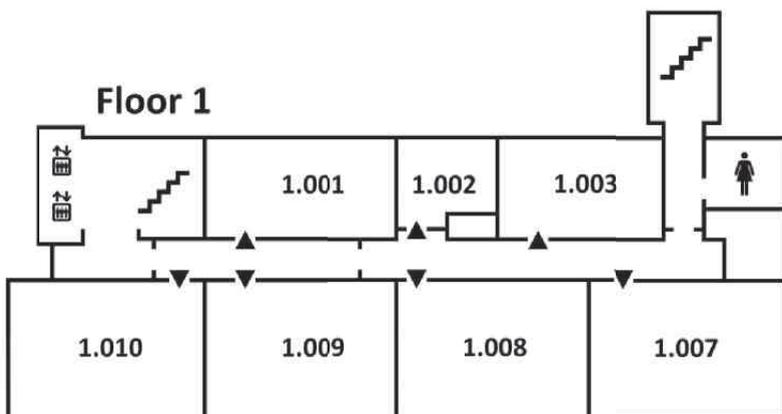
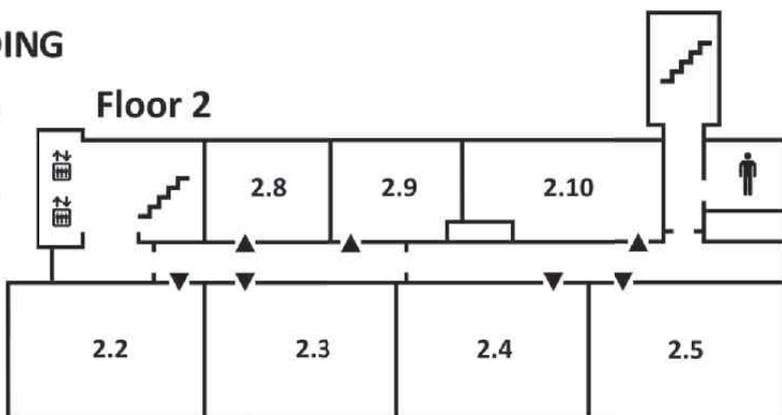


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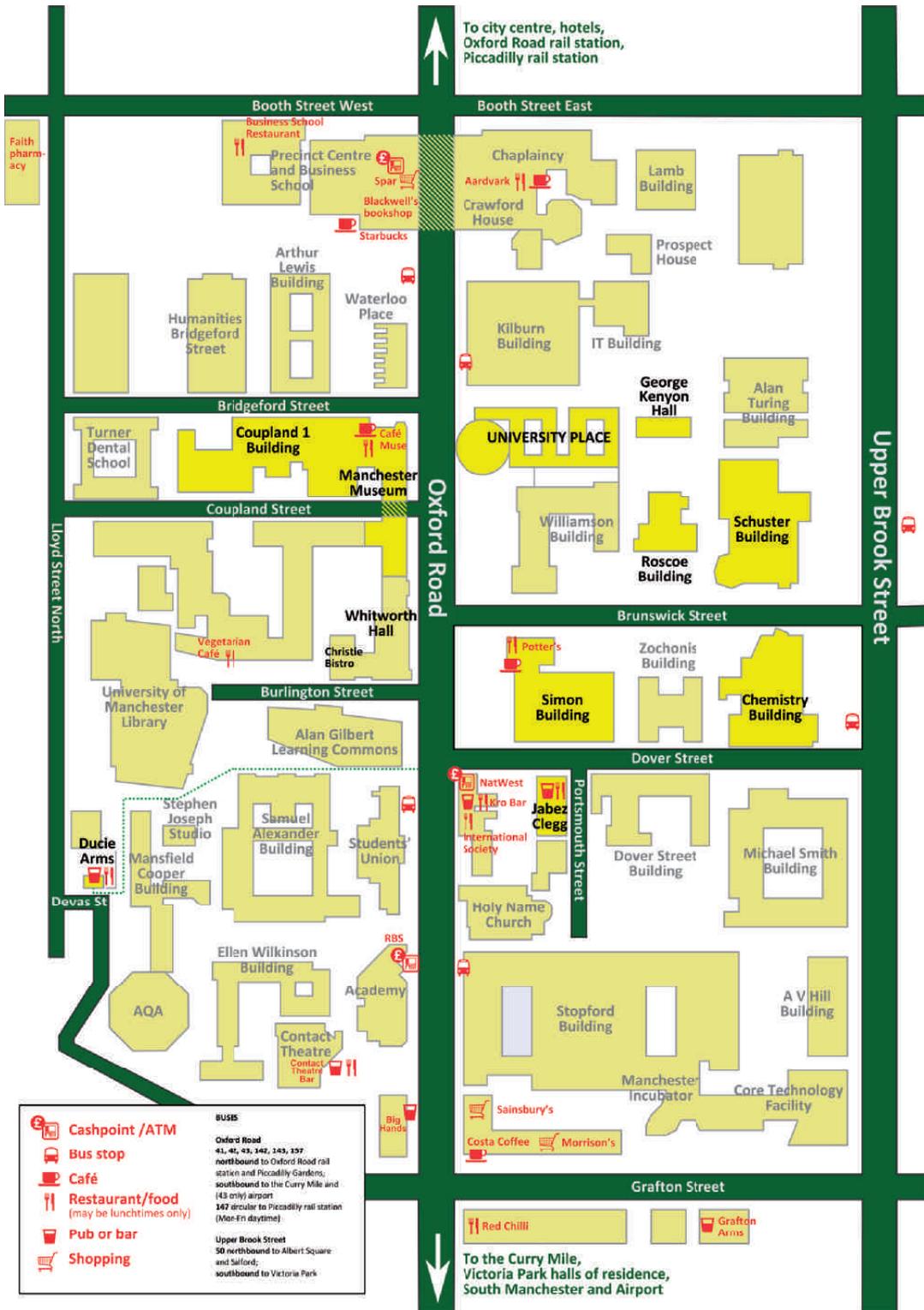
# ROSCOE BUILDING

For the **Schuster Building**, see inside front cover

For **University Place**, see centre pages



To city centre, hotels,  
Oxford Road rail station,  
Piccadilly rail station



**Cashpoint /ATM**  
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Upper Brook Street  
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 southbound to Victoria Park

To the Curry Mile,  
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