



Science & Technology Facilities Council

ISIS



NEUTRONS
FOR SCIENCE

UK Neutron and Muon Science and User Meeting

29th April – 1st May 2019

Warwick Conferences, Coventry



www.isis.stfc.ac.uk
www.ill.eu

Welcome to the UK Neutron and Muon Science and User Meeting 2019!

We are very pleased to welcome over 300 UK Neutron and Muon users to Warwick for this year's NMSUM meeting.

The UK neutron and muon science and user meeting is an opportunity to hear about the latest science from the ISIS Neutron and Muon Source and the ILL, plus updates from the facilities and other matters of interest to neutron and muon users.

The meeting will be made up of a dedicated student day, a science day and a user meeting, similar to the format of last year's meeting.

We hope that you enjoy the meeting and look forward to seeing you at Warwick!

Contents of this pack

- Page 2 Welcome and overview of the meeting
- Pages 3 - 4 General information about the venue, travel, accommodation, registration and claiming expenses.
- Page 5 Map of the Warwick Campus
- Pages 6-9 Programme of the meeting
- Page 10 News and information from ISIS and ILL

Overview of the meeting

Monday 29th April : *Student day*

A day organised for UK PhD students using neutrons or muons in their work.

Tuesday 30th April: *Science day*

Plenary talks given by key speakers followed by science talks organised into five themed groups:

- Functional materials
- Magnetism and superconductivity
- Biosciences and soft matter
- Chemistry and catalysis
- Engineering

The day will end with the Institute of Physics and Royal Society of Chemistry Willis Prize talks, followed by a poster session and conference dinner.

Wednesday 1st May: *User meeting*

Updates from ISIS Neutron and Muon Source, ILL, ESS and Diamond, feedback from science sessions and student poster prize talks.

General Information

The venue

The event will take place at [The Slate](#) and [Scarman House](#).

Free car parking is available at The Slate, Radcliffe and Scarman House and is accessible via a barrier operated system. Disabled parking spaces are available at the front of the car park. Please collect a token from Reception before leaving to exit the car park.

The student day meeting is being held in the Tiered Lecture Theatre at Scarman House on Monday 29th April. The plenary sessions on Tuesday 30th April and Wednesday 1st May are being held in The Slate, and the breakout sessions will be in meeting rooms in Scarman House (please refer to the programme to see which room your chosen session will be in).

Wi-Fi

Wi-Fi is complimentary and can easily be accessed via the Warwick Guest network.

Please check the details online via this link <http://www2.warwick.ac.uk/services/conferences/guestinfo/wifi-business-centres/> or contact Reception.

Directions and travel

The Sat Nav post code for Radcliffe, Scarman and The Slate is **CV4 7SH**. This postcode will direct you to Gibbet Hill Road, the main road through the University. When you reach the campus, you'll find signs for Scarman and The Slate.

For Arden, please use **CV4 8AH**. This will take you to Kirby Corner Road, where you'll find signposts for Arden. Please do not park in Arden before obtaining a parking permit from your event organiser.

By rail

Coventry is the most convenient train station for most visitors. It's served by trains from London Euston, Birmingham (New Street and International) and Leicester. From Coventry station, it's easy to get a taxi or bus to us.

Canley and Tile Hill train stations are both served by trains from London, Milton Keynes, Birmingham, Coventry, Rugby and Northampton. Neither station has a taxi rank, so if you don't want to walk, book a taxi in advance.

Leamington Spa is served by trains from Birmingham, Coventry, Oxford, Reading and London Marylebone. You can get a bus to us from close to the station.

By Bus

There are regular buses to us from Coventry and Leamington Spa.

Coventry

The 11 and 12 bus routes both serve Warwick Conferences. You'll need to have the right money as the bus drivers don't give change. Both buses call at the Rail Station Bridge SD stop on Warwick Road - a one-minute walk from Coventry station.

Leamington Spa

The U1 and U2 buses serve Warwick Conferences. Both services stop at Parish Church Stand B - a seven-minute walk from Leamington Spa station

By air: The closest airport is Birmingham Airport. A taxi to Warwick Conferences from the airport will take about 30 minutes and cost around £30. Alternatively, you can take a direct train to Coventry from Birmingham International station which is at the airport.

More detailed directions and a travel planning tool can be found [here](#).

Registration

The meeting registration desk will be set up in the reception area at Scarman House on 29th April for those arriving on this date, but will be in The Slate on 30th April.

Please refer to the programme for Registration timings.

Accommodation

Accommodation on campus is split between [Arden House](#) , [Radcliffe](#) and [Scarman House](#) at the University of Warwick.

Rooms will be available from 15:00 on your day of arrival, and check out is at 10:00. You should check in at the reception desk for the building where your accommodation has been arranged.

If staying at Arden, parking is free however you will require a parking permit when parking at this location. This will be emailed to you or you can collect one during registration at the event.

Accommodation off campus will be at [The Village - Coventry](#). Those staying at this location who have driven to NMSUM may leave their cars on campus overnight as taxis have been arranged departing from Scarman House after dinner at 22:45 on 29th April collecting from The Village at 08:40 the following morning.

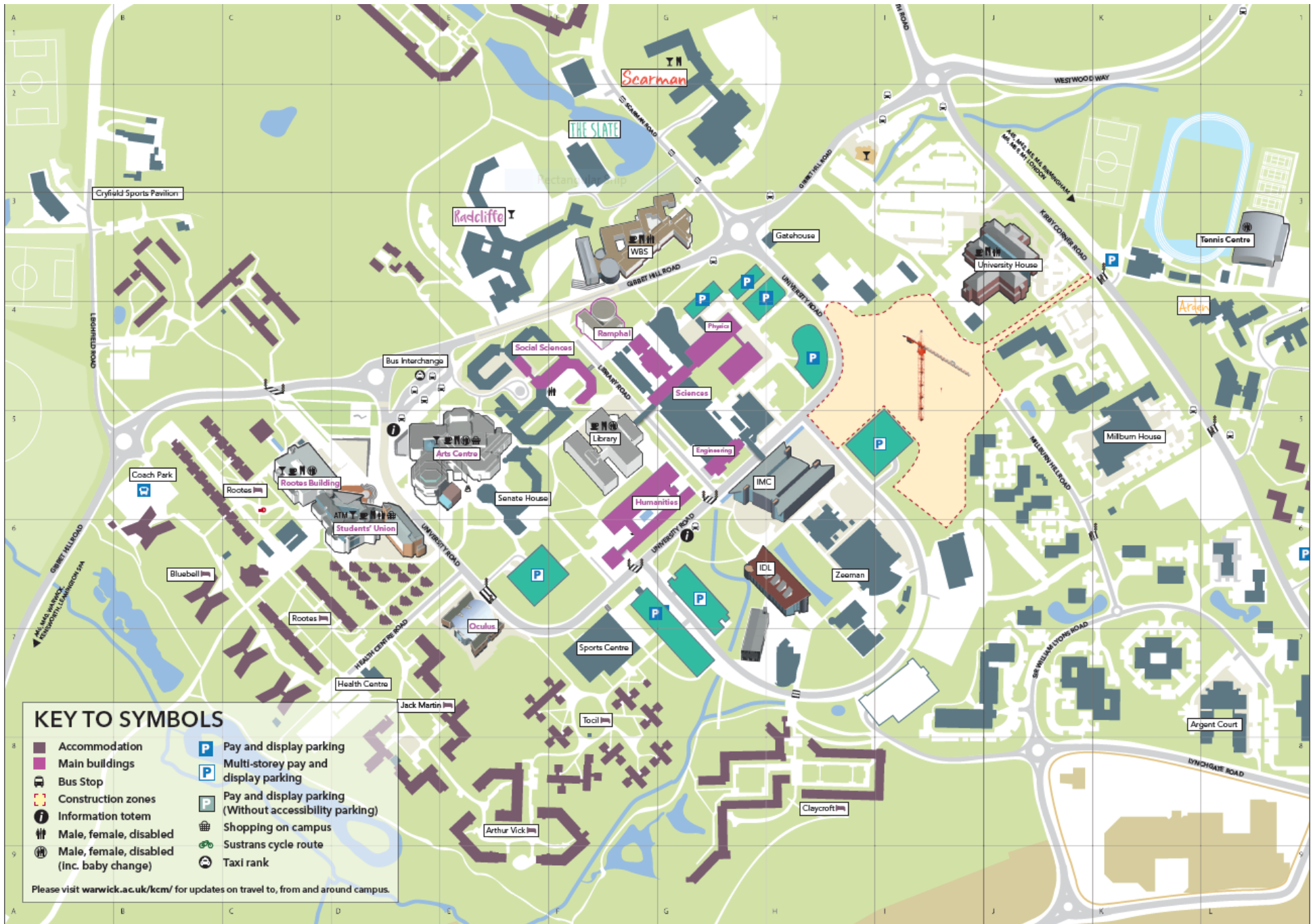
Posters

For those who will bring posters, we kindly request that you bring this in size A0 portrait.

Claiming Expenses

Travel expense forms will be available on the day or can be emailed to attendees after the conference.

Please note that if you do not have a Facility User account, you will be asked to create one before your claim can be processed. An account can be created at <https://users.facilities.rl.ac.uk/auth/CreateAccount.aspx>



KEY TO SYMBOLS

- | | | | |
|--|---|--|---|
| | Accommodation | | Pay and display parking |
| | Main buildings | | Multi-storey pay and display parking |
| | Bus Stop | | Pay and display parking (Without accessibility parking) |
| | Construction zones | | Shopping on campus |
| | Information totem | | Sustrans cycle route |
| | Male, female, disabled | | Taxi rank |
| | Male, female, disabled (inc. baby change) | | |

Please visit warwick.ac.uk/kcm/ for updates on travel to, from and around campus.

UK Neutron and Muon Science and User Meeting 2019 – Scarman House and the Slate, Warwick

Monday 29 April Student Day (for UK PhD students using neutrons or muons in their research)		Neutron and Muon Science and User Meeting arrivals
11:00	Registration - reception area at Scarman House	
12:00	Lunch - Lakeview Restaurant	
13:00	Welcome - Tiered Lecture Theatre at Scarman House	
13:10	Session I - Group Talks	
14:10	<i>Short Break</i>	
14:25	Session I – Student Talks	
15:25	<i>Coffee - Coffee Lounge</i>	
15:55	Session II – Group Talks	
16:55	<i>Short Break</i>	
17:10	Session II – Student Talks	
18:10	<i>Free time</i>	
19:00	Student Dinner - Lakeview Restaurant section 1	
19:30-21:00		
		Buffet Dinner - Lakeview Restaurant section 2

Tuesday 30 April – Science Day

08:30 Registration and coffee – The Slate Main Reception and Slate 2 for coffee

Plenary session – Slate 1

09:00 Welcome & Chair: Donna Arnold (Kent University, ISIS FAP Chair)

09:05 Plenary: Jenny Nelson (Imperial): Conjugated polymers for application to solar energy conversion: understanding structure-property relationships

09:35 Plenary: Paolo Rech (Brazil)

10:05 Plenary: David Barlow (Kings London)

10:35 Coffee – Slate 2

Parallel Sessions (individual breakout rooms)

	Functional Materials Scarman Space 41	Magnetism & Superconductivity Scarman Space 42	Biosciences & Soft Matter Scarman Space 29	Chemistry & Catalysis Scarman Space 24	Engineering Scarman Space 25
11:00	<p>Chair: Mark Johnson (ILL)</p> <p>11.00 Jacqui Cole (Cambridge/ISIS): <i>Data-driven materials discovery of functional materials</i></p> <p>11.30 Anne Guilbert (Imperial): <i>Insight into molecular semiconductors for solar energy conversion using neutron spectroscopy</i></p> <p>12.00 Hany El-Shinawi (Sheffield): <i>Development and characterisation of solid-state electrolytes for next-generation all-solid-state Li-ion batteries</i></p> <p>12.30 Christian Masquelier (Picardie): <i>Crystal chemistry and operando investigation of vanadium-containing phosphates for Lithium or Sodium batteries</i></p>	<p>Chair:</p> <p>11.00 Aiden Hindmarch (Durham): <i>Proximity induced magnetism in spintronics: complementarity of neutrons and resonant x-rays</i></p> <p>11.30 Mark Laver (Birmingham): <i>Vortex disorder and the peak effect in Type-II superconductors</i></p> <p>12.00 Lucy Clark (Liverpool): <i>Crystal and Magnetic Structures of a Family of Quantum Kagome Antiferromagnet</i></p> <p>12.30 Deepak Singh (ISIS): <i>Unconventional Superconductivity in Noncentrosymmetric Superconductors: probed by muSR</i></p>	<p>Chair:</p> <p>11.00 Anthony Higgins (Swansea): <i>Interfacial width and phase equilibrium in polymer/fullerene thin-films</i></p> <p>11.30 Svetlana Antonyuk (Liverpool): <i>Damage-free structures of green copper nitrite reductase obtained by neutron crystallography and XFEL.</i></p> <p>12.00 Bana Shriky (Bradford): <i>Smart, injectable hydrogels for controlled drug delivery</i></p> <p>12.30 Paul McMillan (UCL): <i>Quasielastic neutron studies: water dynamics in bacteria at high pressure</i></p>	<p>Chair:</p> <p>11.00 Joao Cabral (Imperial): <i>Molecular engineering of complex fluids by microfluidic SANS</i></p> <p>11.30 Ivana Evans (Durham): <i>Functional Materials for Energy Applications: Structure, Properties and Dynamics</i></p> <p>12.00 Sabrina Gaertner (ISIS): <i>Nanoscale Structure of Amorphous Solid Water. What Determines the Porosity in ASW?</i></p> <p>12.30 Marta Falkowska (Manchester): <i>Total Neutron Scattering integrated with NMR to Study Heterogeneous Catalysis</i></p>	<p>Chair: Saurabh Kabra (ISIS)</p> <p>11.00 Christopher Truman (Bristol): <i>Novel applications of neutron diffraction in residual stress measurement</i></p> <p>11.30 Dirk Visser (Loughborough): <i>The Medieval Sword: Thought, Form, Material and Production</i></p> <p>12.00 Kun Yan (Manchester): <i>TRIP-effect of low stacking fault energy materials in cryogenic environment: a first principle study via neutron diffraction</i></p> <p>12.30 Ralf Ziesche (UCL): <i>Neutron Imaging of Li-Ion and Li-metal batteries</i></p>
13:00	Lunch – The Slate				

14:15	<p>14.15 Maria Diaz-Lopez (ISIS): <i>Nanostructured Li-Mn-O rock-salts as cathode materials for Li-ion batteries</i></p> <p>14.45 Adrian Porch (Cardiff): <i>Simultaneous structural and dielectric characterisation using microwave techniques</i></p> <p>15.15 Abbie Mclaughlin (Aberdeen): <i>Investigation of Oxide ion conductors in the Hexagonal Perovskite Family</i></p>	<p>14.15 Manila Songvilay (Edinburgh): <i>Direct observation of $S=3/2$ spinon confinement in the zigzag spin chain compound beta-CaCr_2O_4</i></p> <p>14.45 David Boldrin (Imperial): <i>Vesignieite: A coplanar triple-k $S=1/2$ kagome antiferromagnet with dominant third-neighbour exchange and symmetric exchange anisotropy</i></p> <p>15.15 Alex Gibbs (ISIS)</p>	<p>14.15 Lindsay McGregor (Kings London / ILL): <i>Investigating the protonation states of reactive intermediates in urate oxidase catalysis</i></p> <p>14.45 Jian Lu (Manchester): <i>Interfacial adsorption of therapeutic antibodies</i></p> <p>15.15 Luke Clifton (ISIS): <i>Membrane science development at ISIS</i></p>	<p>14.15 Duncan Gregory (Glasgow): <i>Ultra-fast Microwave Synthesis of Non-oxide Materials</i></p> <p>14.45 Tony Tamtoegl (Graz, Austria): <i>Insights in surface diffusion using neutron scattering: From ballistic motion to electronic friction.</i></p> <p>15.15 Christian Pfrang (Birmingham): <i>Atmospheric fate of urban & marine surfactants: multi-component films oxidised by nitrate radicals and ozone</i></p>	<p>Chair: Thilo Pirling (ILL)</p> <p>14.15 Cui Er Seow (Bristol): <i>Fracture experiments with coarse-grained nickel-base superalloy on SALSA and ENGIN-X</i></p> <p>14:45 John Brokx & Mushfiqur Rahman (Open University/ILL): <i>Systematic experimental studies and simulations of spurious strains that affect neutron diffraction measurements in dissimilar metal joints</i></p> <p>15.15 John Bouchard (Open University): <i>Update on the International Stress Engineering Centre (I-SEC)</i></p>
15:45	<i>Coffee – Scarman Lounge</i>				
16:10 - 17:00	<p>16.10 Paul Anderson (Birmingham): <i>Elastic and inelastic neutron scattering in energy storage materials</i></p> <p>16.40 Discussion</p>	<p>16:10 Simon Riberolles (Warwick / ILL): <i>Neutron scattering studies of the geometrically frustrated SrLn_2O_4 (Ln=Nd, Gd, Er) materials</i></p> <p>16.40 Discussion</p>	<p>16.10 Karen Edler (Bath): <i>Polymer effects on formation of lipid nanodiscs</i></p> <p>16.40 Discussion</p>	<p>16.10 Sihai Yang (Manchester): <i>Porous niobium-based catalysts for efficient biomass conversions</i></p> <p>16.40 Discussion</p>	<p>Chair: Joe Kelleher (ISIS)</p> <p>16.10 Tung Lik Lee (ISIS): <i>ENGIN-X/e-MAP Updates</i></p> <p>16.20 Winfried Kockelmann (ISIS): <i>IMAT Updates</i></p> <p>16.30 Thilo Pirling (ILL): <i>SALSA Updates</i></p> <p>16.40 Discussion</p>
<i>Plenary Session – Slate 1</i>					
17:15	Willis Prize for neutron scattering: award and talk				
	2018 Willis Prize Winner				
17:40	Plenary: ISIS Impact awards				
	Science award: Sihai Yang (Manchester):				
18:00 - 19:00	<i>Student poster session with drinks - Slate 2</i>				
	<i>Instrument and sample environment posters also on display</i>				
19:30	<i>Conference dinner – Scarman</i>				

Wed 1 May – User Meeting

Chair: Donna Arnold (Kent University, ISIS FAP Chair)

The Slate 1

09:00	Plenary: ISIS Impact awards Economic award: Indri Adilina (Indonesian Institute of Sciences): <i>Turning Palm Oil Waste to Eco-Friendly Biofuels via Catalysis</i> Society award: Maria Paula Marques (Coimbra, Portugal): <i>Shining the Beam on Cancer – Intracellular Water as a Mediator of Drug Action</i>
09:40	Willis Prize for neutron scattering: award and talk 2019 Willis Prize Winner
10.10	Update from STFC and UKRI – Robert McGreevy (ISIS Director)
10.30	Update from facilities – ESS – John Womersley (ESS Director General)
10.50	<i>Coffee - Slate 2</i>
11.10	Update from facilities – ILL – Mark Johnson (ILL Head of Science, UK Associate Director)
11.30	Update from facilities – ISIS – Philip King (ISIS Spectroscopy Division Head)
11:50	Update from facilities – Diamond – Andrew Harrison (Diamond Chief Executive)
12.10	Table discussions
12:15	Panel Q&A
12:30	Student Poster Prize awards and talks
13:00	Closing remarks
13:15	<i>Lunch – The Slate</i>

A few other things we'd like to tell you about!

Data DOIs

Digital Object Identifiers (DOIs) are issued for every ISIS and ILL experiment. They provide a permanent link back to the data which can be cited in publications as part of open data policies. They also help the facilities find publications. We would like every ISIS and ILL publication to cite the data DOI(s) relevant to the experiment(s) that the publication is based on.

For more information, please see

[https://www.isis.stfc.ac.uk/Pages/Digital-Object-Identifiers-\(DOIs\)-for-ISIS-Data.aspx](https://www.isis.stfc.ac.uk/Pages/Digital-Object-Identifiers-(DOIs)-for-ISIS-Data.aspx) and
<https://www.ill.eu/fr/users-en/user-guide/after-your-experiment/data-management/>

ISIS long shutdown

ISIS will have an extended shutdown from **late summer 2020 - autumn 2021** for significant refurbishment work on the first target station and installation of a new linear accelerator tank, in order to extend the life of the facility for many years to come. TS1 will be off from Sept 2020 until Nov 2021, and TS2 will be off from Sept 2020 to May 2021. **This will most likely mean that the April 2020 proposal round will be cancelled, and the October 2020 proposal round is likely to be for TS2 instruments only.** We are announcing this now in order to give as much time as possible for the planning of research programmes, PhD projects, etc. Proposal deadlines up to 2021 will be:

- Round 19/2 Wed 17 Apr 2019: all instruments
- Round 20/1 Wed 16 Oct 2019: all instruments
- Round 20/2 **Cancelled** (no proposal round in Apr 2020)
- Round 21/1 Late 2020: **TS2 instruments only**
- Round 21/2 Spring 2021: all instruments

ILL long shutdown

ILL will have 14-month shutdown from **spring 2020 - spring 2021** for the 10-year renewal of the front-end of the H1-H2 guide system, which serves the main instrument hall, and to install the new H24 guide that will serve 3 new or upgraded instruments. **The spring 2020 proposal round will be cancelled while the autumn 2020 proposal round will take place enabling experiments to be selected for spring 2021.** We have tried to minimise the overlap between ILL and ISIS shutdown periods in order to minimise the impact on your research programmes. The next proposal deadline at ILL is 16 Sept 2019.

Experiment reports

An experiment report should be completed for every ISIS experiment. You can check whether a report has been submitted for an ISIS experiment using this link:

<https://users.facilities.rl.ac.uk/experimentalreports/>

Materials to help you talk about ISIS

If you're giving a talk which uses ISIS data, we have some resources online which may be useful. You can find them here: <https://www.isis.stfc.ac.uk/Pages/Things-to-help-you-talk-about-ISIS.aspx>. If there are other things you'd like to see on this page, contact [Sara Fletcher](#).