

# ISIS User Committee

Friday 9 December 2016, 10:00

The Cosener's House  
Abingdon, The Garden Room

## Present:

Emma McCabe (Kent)	IUG1 Crystallography
Emma Barney (Nottingham, Chair)	IUG2 Disordered Materials
Tim Knowles (Birmingham)	IUG3 Large Scale Structures
Kelly Morrison (Loughborough)	IUG4 Excitations
No rep able to attend	IUG5 Molecular Spectroscopy
Nicola Morley (Sheffield), Martin Lees (Warwick)	IUG6 Muons
Catrin Davies (Imperial)	IUG7 Engineering

## Present from ISIS:

Robert McGreevy	ISIS Director
Zoe Bowden	Head, ISIS Operations
Debbie Greenfield	Head, ISIS Instrumentation Division
Philip King	Head, ISIS Spectroscopy and Support Division
Sean Langridge	Head, ISIS Diffraction Division
Steve Wakefield	Head, ISIS Experiment Operations Division
Andrew Kaye	ISIS User Programme Manager
Matt North	Minutes

## In attendance:

David McDougall	(BBSRC)
David Bowker	(EPSRC)
Kelly Holt	(BaxterStorey)
Sarah Corderoy	(STFC)
Allen Elston	(STFC, for Catering and Accommodation item)

## Apologies:

Hongbiao Dong (Leicester, IUG7), Paul Bingham (Sheffield Hallam, IUG2), Christoph Salzmann (UCL, IUG5), Peter Slater (Birmingham, IUG1)

## 1. Welcome & Introductions

The chair formally opened the IUC meeting with introductions from each participant.

## 2. Minutes and actions outstanding

The IUC accepted the June 2016 Minutes as a true record.

Update on June 2016 ISIS User Committee Actions:

### 1. **AK: to continue to implement online user satisfaction form**

Ongoing. Online form is complete and is currently being rolled out. The form will be available from the instrument beamline control PC and from an email link post-experiment.

### 2. **AK: to explore TS2 user fridge**

Ongoing.

### 3. **HD to work with ISIS staff to arrange an engineering user meeting**

Complete. User meeting has been organised for the 18<sup>th</sup> & 19<sup>th</sup> of Jan.

4. **PK to consider including a Chiplr representative on the IUC**  
Ongoing. Chiplr is still in a commissioning phase and IUC representation will be considered once the instrument is included in proposal rounds.
5. **SW to look at revision of MCR news**  
Complete. Information related to the methane moderator has returned to MCR news and the quality and ISIS continues to work to improve the quality / quantity of MCR information.
6. **AK to consider short Xpress reports and how these can be captured**  
Ongoing.
7. **AK to forward IUC minutes to Diamond User Committee**  
Complete.
8. **PK to consider mechanism for feedback to users following experiment report comments**  
Ongoing. IUC & ISIS Science Group Leaders receive comments and would like to provide feedback but quantity is too high to do this in all cases.  
**NEW ACTION: IUC members to think about a mechanism to filter experiment report comments for ISIS feedback.**  
**NEW ACTION: PK to forward experiment report comments to DG.**
9. **SL to oversee distribution of draft scientific computing document to the community**  
Ongoing. ISIS requirements from the science groups have been captured.

### 3. User Group Reports

#### 3.1. Crystallography – Emma McCabe

Very successful user group meeting was held in October jointly with BCA and IoP groups – the meeting has now outgrown Cosener's.

Given the oversubscription on Wish, the user group were concerned about the decision not to run to TS2 during the TS1 shutdown planned for summer 2017. The user group would like to see the GEM upgrade work happen as soon as possible e.g. taking place alongside the MAPS/MARI work in the 2017 long shutdown (see note on this below). The user group noted that an HRPD upgrade will keep the instrument world-leading and could alleviate the oversubscription on WISH for particular experiments – ISIS noted that this upgrade will be costly owing to the need to rebuild the HRPD building, and phased approaches are currently being explored.

Brexit – The user group noted that the excellent science produced by ISIS is a collaboration between provision of facilities and external expertise. A loss of world-class international scientists would have a hugely detrimental impact. ISIS noted that it is very aware of the uncertainties that Brexit poses and is doing all it can to reassure EU staff. STFC has formed a Brexit working group to ensure the organisation is aware of issues such as this.

Food provision to enable night-shift working was requested.

#### 3.2. Disordered Materials – Emma Barney

User programme is running smoothly. There has been some shifting of experiments between instruments due to loss of beam where necessary.

The user group thanks Sam Callear (ISIS) for all of the work completed to develop EPSR GUI. Training will be provided at the next user group meeting planned for February 2017.

Proposals are pushing technical capabilities at ISIS and new developments are required; often these progress only very slowly. ISIS noted that engineering and technical staff recruitment is a serious and ongoing problem due to our inability to offer competitive salaries. Use of apprentices was discussed, and the suggestion made of engineering sandwich students.

**ACTION PK: to ask about ISIS taking sandwich students in engineering areas.**

GEM Upgrade – This is an important instrument for the user group. More information regarding the timing of the upgrade would be valued.

**ACTION SW: Provide a timeline for the GEM upgrade to the IUC**

### **3.3. Large Scale Structures – Tim Knowles**

Users are very happy. Support is extremely good. No instrument issues to report.

Zoom will open its shutter soon, and the issue of implementing focusing was raised; ISIS noted that this is part of the instrument plan and will be implemented in due course. The user group noted some desired technical improvements (Gaussmeters on Offspec, improved cryostat cooling on Sans2D) and the ability to remote desktop and control instruments from Cosener's during night runs.

The group also noted that users have problems using Eduroam on site, particularly from Windows 10 computers.

Better signposting is needed for the ground floor toilets in TS2, and the smell from these toilets was also noted.

Better provision for those with dietary requirements for the food in Ridgeway House was requested.

### **3.4. Excitations – Kelly Morrison**

The user group stated that MARI is a top-spec instrument which could have a much broader impact with higher flux – a guide upgrade is planned for the next year.

The user group noted that dilution fridge and cryostat failures continue to be an issue. ISIS noted that there is an obsolescence programme to replace ageing sub-1K equipment. However, the technical staff resource in this area is limited due to problems in recruiting suitably qualified staff. In the current proposal round we will be limiting the number of sub-1K experiments to ensure these can be fully supported.

There seems to be an issue with overseas users accessing data via nomachine.

### **3.5. Molecular Spectroscopy – report read by the Chair**

Recent user group meetings have been held, and a regular newsletter is distributed to the community.

Various instrument development possibilities, on Vesuvio, Osiris and for sample environment, were noted. The possible need for mitigation strategies related to the TS1 project was noted. A new catalysis lab is being explored. DAE3 is likely to be implemented on Vesuvio.

The need for modelling and wider scientific computing support was noted.

### 3.6. Muons – Nicola Morley

The south side muon beamlines have been refurbished, resulting in a factor 4 increase in muon flux. There is support for detector developments and the SuperMuSR upgrade. Restrictions on sub-1K experiments were noted, as these particularly affect MuSR. The end of the grant supporting the laser on HiFi was noted, and a plan for this facility following the end of this grant needs to be developed.

RIKEN-RAL muon facility – The RIKEN-RAL agreement ends in March 2018. ISIS would like to continue to operate the facility beyond this date, and are currently working with RIKEN on a new agreement for this.

The next user meeting is planned for 6<sup>th</sup> & 7<sup>th</sup> of February 2017, and a muon site calculation meeting was held in November.

Improvements to vending machine provision were requested, particularly at weekends, and better options for vegetarians requested for the evening meal.

### 3.7. Engineering – Catrin Davies

A user group meeting has been organised for Feb 2017.

Two instrument control and computing issues were noted.

In further discussion, it was noted that the IUC would welcome further information on instrument development and sample environment projects and purchases.

**ACTION PK, SW to provide a list of current and recent instrument and SE developments to the next IUC meeting.**

## 4. ISIS Update – Robert McGreevy

### People

Dr Brian Bowsher is the new STFC CEO.

Laurent Chapon is Diamond's new Physical Sciences director. ISIS expects that this will broaden the opportunity for collaboration between the two facilities.

### Finance

The balance between maintaining operations whilst meeting efficiency savings was discussed.

ISIS has submitted two proposals to the recent Global Challenge Resource Fund call to support interactions with China and India.

### Facility Development

ISIS is looking at facility development over the next 30 years including:

TS1 target and moderator project in 2020-2021 (this will require a 1-year shutdown of the facility).

A bid for a new phase of instrument build funding.

ISEC – ISIS Stress Engineering Centre – in partnership with university and industry colleagues, to create a world-unique centre for engineering studies using neutrons and other techniques.

ISIS-2 – a next-generation facility – an initial scoping paper has been produced, and feasibility studies for relevant technologies will be planned over coming years, aiming at a facility operating from 2030.

### **Ada Lovelace Centre (ALC)**

Investment in scientific computing is an increasing requirement to get full benefit from facility data. The ALC has been formed to provide a cross-facility way of meeting these requirements. A funding bid for the Centre has been submitted.

### **ISIS Economic Impact Report**

The ISIS Economic Impact Report, based on the first 30 years of ISIS operations, clearly shows that ISIS provides a very good return on the government's financial investment – both financially, scientifically and in terms of skills training. The report will be published shortly.

### **ISIS Studentships**

ISIS has a current studentship call in progress, and will co-fund a further 6 or so facility development studentships through this, bringing the total of supported students to around 35. ISIS continues to explore ways of supporting the community through student provision.

**ACTION PK: Publish annually, a description of successful studentships.**

## **5. Proposal supported by Research Council grants - David MacDougall**

DM noted the potential risk that Research Councils might fund grants which require access to a facility such as ISIS, but that the grant holder is then not able to get facility time due to the facility panels rejecting their proposals. The User Committee were asked to discuss whether they thought this was an issue and what they would like to see happen regarding this potential danger.

The discussion centred on what level of detail is required for Research Council grants in comparison to facility access proposals. IUC members made a strong distinction between a 3-year RC grant proposal within which a requirement for facility usage may be only a small part, and a facility beamtime proposal which contained significant detail on the specific facility experiment.

The question was raised as to whether the level of detail of a facility beamtime request could be included within a RC proposal, perhaps as an appendix, so that it could be assessed at the same time. The IUC did not feel this to be appropriate, as it would be extremely difficult to write 3 or more years of detailed beamtime proposals before a grant had even started, given that the course of a research project could not be mapped out in detail before the start of the project.

The question was raised as to whether a facility could do a technical assessment based on an RC grant proposal. It was noted that the facility could provide general advice on the suitability of neutrons within a particular research area, and on a PI's historical ability to access beamtime, but that the details of particular individual experiments needed to be considered.

The committee members were strongly against any form of top-slicing of time for RC-supported proposals, noting that users have a variety of other forms of support in addition to RC support.

ISIS noted that it was unaware of any instances of an RC grant-supported PI being unable to get facility time, and that, if it were made aware of such cases, it would want to work with the relevant PI or RC to ensure appropriate facility time was provided. It was also noted that RC-supported PI's already have a higher success rate for getting facility time than most other users.

## **6. ISIS Operations Update – Steve Wakefield**

### **Facility Operation**

SW reported on facility operations over the last three cycles. For cycles 2016/1 & 16/2 the accelerator and targets operated at c.90% availability. However cycle 16/3 suffered 5 major failures resulting in a reduced availability of 71%. These failures were spread across a variety of equipment; ISIS was able to return to operations once the faults had been rectified, whereas historically the seriousness of these particular faults may well have resulted in the cancellation of the rest of the run cycle.

### **Instrument Development**

The TOSCA guide upgrade is largely complete; the shutter guide section will be installed in the upcoming shutdown, but initial flux increases looked very promising. The ZOOM instrument build is progressing on schedule for first beam in February 2017.

### **Technical Development**

Sample deuteration capabilities are increasing along with publications from users of the facility. The 2<sup>nd</sup> user group meeting is planned for spring 2017.

The Category 2 Biology Lab is now in operation.

Commissioning of the Helium recovery system is ongoing; Helium has been collected in both low and high pressure storage. A liquefier has been purchased and will be installed ready for commissioning in the January 2017.

## **7. STFC Catering and Accommodation Contract– (Allen Elston, Kelly Holt)**

BaxterStorey have won the bid for the new STFC catering and accommodation contract. AE presented the background to this, and KH presented BaxterStorey's background and plan for the future. The IUC gave feedback on the good and bad from an ISIS user's perspective, including:

- the current excellent breakfast at Ridgeway
- the need for catering and accommodation provision to recognise the sometimes antisocial hours which users have to work to support their experiments, including weekend and evening / night working. This means that, in addition to evening and weekend meals, facility users require access to some form of catering provision at all hours (recent lack of stock in vending machines, and lack of choice in vending machine provision, were noted as issues). It also means that users may be sleeping during the day, so blackout blinds in rooms are important.
- the range in quality of Cosener's rooms was noted, with some being fine but others being sub-standard (including some with no ensuite, or with poor shower quality)
- provision for users with dietary requirements should be ensured (facility users are asked for their requirements and these are passed onto the catering provider)
- concern over pay levels and zero-hours contracts for catering and accommodation staff was expressed.

## 8. AoB & Date of Next Meeting

No other business reported.

**Next IUC Meeting - 9<sup>th</sup> of June 2017.**

## IUC Dec 2016 Actions

1. **AK: to continue to implement online user satisfaction form.**
2. **AK: to explore TS2 user fridge.**
3. **PK: to consider Chiplr user rep.**
4. **AK to consider short Xpress reports and how these can be captured.**
5. **PK to consider mechanism for feedback to users following experiment report comments.**
6. **IUC members to think about a mechanism to filter experiment report comments for ISIS feedback.**
7. **PK to forward experiment report comments to DG.**
8. **SL to oversee distribution of draft scientific computing document to the community.**
9. **PK to ask about ISIS taking sandwich students in engineering areas**
10. **SW to provide a timeline for the GEM upgrade to the IUC.**
11. **Muon user group to provide PK with a list of photo excitation related papers.**
12. **PK, SW to provide a list of current and recent instrument and SE developments to the next IUC meeting.**
13. **PK: Publish annually, a description of successful studentships.**