# SCHOMS '13 Finding a way ahead together

NEW ground was broken at this year's SCHOMS conference at the University of Aberdeen.

The gathering attracted representatives from more than 40 universities and 25 companies – confirming it as the largest AV/classroom technology event with a single HE focus in the UK.

SCHOMS delegates and sponsors agreed to put their heads together during a major forum to share concerns and discuss common ways of working in a sector challenged by massive change.

Round-table talks featuring all the attendees took place during a World Cafe session during the supplier exhibition being held in Elphinstone Hall.
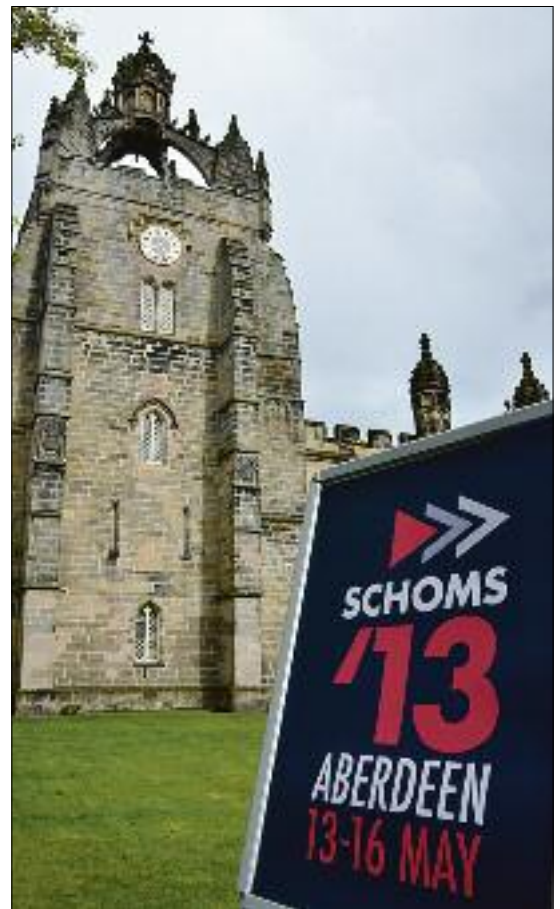
The delegates and sponsors were divided equally into sub-groups and asked to come up with their top five answers to the questions:

● issues affecting HE in 2013 from a student/university perspective?

● issues affecting HE in 2013 from a suppliers perspective?

● issues affecting HE in medium term from both perspectives?.

Each group gave brief feedback to the questions. SCHOMS chair Simon Birkett said the documented discussions would be collated and a report drawn up. The Executive will then identify key outcomes and any potential actions.

**More pictures – centre pages**

**You can now follow and take part in discussions on Twitter @SCHOMSinfo**

**Listen in full** — **Audio web links to the presentations reported in this issue will be sent direct to members via email. If you're not a member, please contact the SCHOMS office to obtain the links.**

# Crucial that we manage change

CHANGE management will determine the success or failure of new projects for universities as they face "a watershed moment in learning spaces."

Referring to the title of a publication from the Public Policy Research Institute (IPPR), Professor Alexi Marmot told delegates: "An avalanche is coming.

"We may have got to the point where what we've thought for hundreds of years is at a tipping point. It may no longer apply. And IT is central to it."

While some companies might have been around for hundreds of years - and governments only lasted several years - universities had been around for more than 1,000 years.

In 1960, there was 5% participation among the 17-30 age range. In 2010, that had increased to 43%.

Globally, in 1900 there were 500,000 HE students. By 2000 the figure had risen to 100 million - and by 2009 to 150 million.

"That is an astonishing growth industry," Professor Marmot said. "It doesn't matter how good we are as IT professionals or teachers or architects, if we don't listen to what people want and then communicate how we will manage to do it, then it's wasted."

She felt that all was changing in the fields of pedagogy and technology and how it related to rooms, estates, furniture – "all the things we capture and feel."

Recent projects had often been about trying to resuscitate learning places that were out of date, but a huge amount of what we could do was about changing technology, colour and operating procedures so

**In her keynote speech, Professor Alexi Marmot of Facility and Environment Management at UCL, drew on her experiences as both an architect and an academic to give an appraisal of the profound changes facing universities today.**

learning places could be transformed for the 21st century.

"Since 2002, there has been a huge amount of iconic building. We've been doing it to expand and to attract people, and seeing buildings like The Sir Duncan Rice Library in Aberdeen shows the power of space and the impact it has had on the community."

But there were trends towards more collaboration and integration and studies about where people preferred to do their learning.

"Students spend as long in their study bedroom as they do in the facilities universities provide for learning. We need to consider the students' point of view and what the world is like to the student. We might get a rather different and more refined view than flooding everywhere with technology."

Students were learning through reflection, by 'doing' and through discussion with others. Peer-to-peer learning was to be seen as valuable and important and affected spaces in institutions because students liked to be flexible.

"Coffee shops are merging into learning spaces and libraries are merging into coffee shops," she said. "We need to understand the trends and research conducted into the design of key teaching, learning and working spaces."

Getting learning spaces right – whether classrooms, computer rooms, labs, student support/social spaces, postgrad/research spaces or even office spaces – called for major consultation with all stakeholders and visits to where change had been introduced.

"It was an alarming lesson when I learned through the work of a number of environmental psychologists that what users perceive in space is not the stuff architects worry about. They don't understand space and structure as we do. They think about the small things – furniture, cleanliness, colour and increasingly IT.

"It means you can adapt buildings effectively at cheaper cost because it's the small touches that matter. Tiny things create wonderful settings, things that people remember and value.

"It was wonderful to come here this morning and find a coat rack. Most learning spaces don't have a coat rack. Never underestimate the importance of attention to detail in

**// It was wonderful to come here this morning and find a coat rack. Never underestimate the importance of attention to detail in anything to do with space and IT //**

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# Universities have to become media companies. . . unless we take on all the challenges of media companies, we don't know where we're going

anything to do with space and IT."

Professor Marmot went on to discuss how universities bearing the name of a city and only operating in that city were becoming a feature of the past.

She cited the Observatory on Borderless Education, the Open University, the fact that University of Florida courses were run in London and the claim of the University of Phoenix to have locations within 10 miles of 90 million Americans.

International branch campuses – like Nottingham University's campuses in China and Malaysia – were emerging along with huge, highly-funded universities in the Middle East that drew in the best universities around the world to teach with them.

Other challenges included:
● multi-university start-ups
● the growth of English language programmes in many countries
● new private providers such as private equity companies showing an interest in buying establishments.

Turning to changes in technology, Professor Marmot said educational media was no longer place-based. "It's only one part of what you're concerned about and probably the smaller part, but we're now looking at anytime, anywhere, any device for anyone."

Textbooks were giving way to linked digital technologies – text, image, video, sound – and the classroom was being 'flipped'.

"Open access is a revolution and carries an impact we don't quite understand," she said. "Space and creating fascinating architecture has an important part to play."

The digital world was the future. But it meant that universities had to become media companies.

"Unless we take on all the challenges of media companies, we don't know where we are going. We have to become television companies, social media organisations, we have to make films of the quality made by Hollywood.

"It needs all your skills and expertise. My university runs a three-day course to teach teachers how to perform. We have to be like people on stage.

"We need the minds of the best film and video makers, national broadcasters, animators, actors, advertisers, game designers. . .

"The mind of the educator, the learner and the mind of people in the media are all on the move."

The attention of academics – whose key concern was research – to deal with change was just the start. Estate, IT and media sides had to be brought together despite a fear that universities might become beholden to suppliers who were driving change.

The response to change called for an attempt to "break through functional barriers".

"Without real buy-in from senior leadership, we can't make much difference," Professor Marmot conceded. "We need to capture their minds as to what they should be investing in."

Academic lack of time presented barriers along with motivation, students, support services, estates, room bookings, library and information services, IT, AV, media services, education advisers, communications and marketing.

"It all means attention to change management," said Professor Marmot.

She described studies into the cycles and attitudes to change and presented the 7 Cs of change:
● Create sense of urgency
● Credible team
● Clarify vision and strategy
● Communicate
● Consult and empower
● Celebrate short-term wins
● Cement new culture

"Pay attention to every detail every step along the way," Professor Marmot said. "The one thing you don't do in the path of an avalanche is to stay still."

## Introducing 10 stress busters

SESSIONS on training and personal development issues were held at the conference for the first time. Run by life coach Paul Harris of Real Success Ltd, the opening session dealt with stress.

He recognised change as a major cause of stress. And he asked delegates not only to consider it from their point of view but also from that of people who worked for them. "They get stressed too."

He spoke on how to spot the signs of stress and gave 10 tips for tackling it:
● Be active – walking is best, changes physiology.
● Take control – you can't always control circumstances, but you can control your own reaction.
● Connect – with like-minded people.
● Me time! – plan it into the diary. Men are particularly poor at looking after themselves.
● Set challenges – personal targets such as learning a language or taking part in a charity run takes your mind off your stress.
● Be healthy – it's often joked about the effects of drinks and food but it is true that some can affect your brain.
● Help others – it gives you a sense of perspective and makes you feel better.
● Work smart – the biggest cliché, but we can only do certain amounts of work.
● Be positive – "cheesey", according to Paul, "but it does make a difference, it just does."
● Accept change – if you fight it, it will own you. If you accept change, you can then control your reaction.

He encouraged delegates to take positive steps towards dealing with stress because "education without action is just entertainment."

Learning taken to new levels

SCHOMS '13 opened with a tour of Aberdeen's iconic new Sir Duncan Rice Library and a talk on it by Chris Banks, University Librarian & Director of Special Collections & Museums. It was followed by a tour of the University's historic estate including new learning spaces and the 3D visualisation suite, used for both teaching and research.



# Enter IT architect at concept stage

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A PROJECT process has seven stages, according to guidance drawn up by the Royal Institution of British Architects.

And according to John Coulter: "Traditionally IT and AV people get involved around 'start on site' - stage six. We won't start talking about, say, comms rooms until the contractor wants to know where to put cables."

He told delegates that his role as IT director on a new building programme at Robert Gordon University in Aberdeen changed that.

He said his team was involved at concept stage - stage one.

"We created detailed specifications of how we wanted the wiring infrastructure and we designed each and every comms room so we could retain every space required, specify racks and include detail you'd not normally expect a client to be putting forward."

He said IT architects were needed because builders "came from different worlds" to technologists in IT or AV.

"Builders think we sit in front of computer screen all day and we have a view of builders that nothing is done in a hurry and work need not relate to that on drawings.

**In his presentation 'The role of the Campus IT Architect and Teaching Space Design', John Coulter, explained how he broke with tradition to introduce IT and AV earlier in the design process for a new building programme. John is Campus IT director at Robert Gordon University, Aberdeen.**

"We thought we had to sit down and work together for the university and students and build something together."

The result is 34,000 sq metres of new accommodation plus 100 teaching spaces – "not 100 classrooms or seminar rooms, but teaching spaces to be used throughout the building, some in the library, some in traditional areas, others in casual areas where students have access to IT facilities.

"We asked for a comms room on every floor, within a 90m radius of teaching space to allow for cable limitation, and for the comms rooms to be a working environment."

This enabled John to take a bold key decision to run all cabling, data and audio visual over a Category 6 wiring infrastructure.

He also planned where to place projectors, speaker outlets and podiums that were not anchored by hard-wire cabling.

"We contributed to other aspects of M&E services, pushing through a thin client deployment to areas of buildings. This was needed to make savings. We looked at spaces with a view to flexibility, to be able to change use."

He described the process as "a journey on how teaching and learning is changing."

John talked to delegates in detail about the network infrastructure, desktop technologies and AV specification and how these were designed to blend with teaching processes.

"It is an example of digital classroom design. We have delivered teaching spaces that can be as simple or as complicated as needed.

"All spaces have interactive displays and users can get to any part of the AV systems in no more than three clicks, a philosophy we adapted from the iPhone and iPad."

# Confidence in compliance: finding way through the legal minefield

**Jackie Milne of JISC Legal, identified some of the 'high', 'medium' and 'low' risks for universities and ways to manage them in her presentation on 'Recording Lectures - Navigating the Legal Minefield'**

IT'S a legal minefield out there - and Jackie Milne helped delegates to begin plotting a way through it with a number of case studies.

Jackie, an author of guidance on lecture capture, said thinking about the legal issues early on and managing risks appropriately made for greater confidence in compliance and future re-use.

She identified four main areas:

● Copyright – applies to a range of works such as web images and YouTube videos and lasts for a set period of time, depending on the type of work being copied. Jackie highlighted the particular provision relating to employee works created within the course of employment. In this case, by default, copyright actually belongs to the employer i.e. the University. This can, however, be agreed otherwise. For example, the current practice in some institutions is to permit employees to retain copyright while providing a licence to allow the generous re-use of works.

● Performance rights – while there is no legal definition for a 'performer' there is for a 'performance' where it includes a dramatic element, such as a recitation. Consent is required to record a performance and make it available. "Whether or not a lecture is a performance is not a question we can answer definitively until we get a case," she said. "But to ignore it is a risk. It applies to all performers so it will include lecturers, students and third parties."

● Data protection – Jackie said recording an identifiable individual could be interpreted as processing their particular information which is subject to data protection law. This is very likely to apply where someone is the focus of a lecture recording.

"Fairness is key. If what you're doing would be considered 'fair' to students or the lecturer, that should keep you right," she said. "The best way to do that is to have consent – either formally, signed consent for a guest lecturer for example, or by way of a general statement informing attendees that a recording is taking place and offering individuals an opt-out.

● Accessibility – there is a legal duty to embed accessibility across core learning materials. Recording lectures might be a good way of meeting that legal obligation but a range of formats should be provided.

Jackie highlighted the particular difficulty with lecture capture as this is deemed to be 'further copying'. "There's leeway under the legislation for live delivery within certain limitations, but further copying is likely to need further permission," she said.

"This means finding out who owns the work, getting in touch, keeping records of correspondence and 'no news is good news' does not apply. You need someone to give you permission and if they don't respond, that doesn't mean you have a licence to do anything."

Jackie took delegates through a series of examples of copyright issues to discuss scenarios and identify them as 'high', 'medium' or 'low' risk.

She also said that JISC Legal would shortly be producing specific guidance around MOOCs.

## Introducing 10 motivation boosters

LIFE coach Paul Harris dealt with motivation in his second training and personal development session.

He encouraged delegates to "be a human being, not a human doing. You're not machines."

He spoke about the Tetramap concept - a method of enabling people to learn the different styles and motivations of colleagues and staff around them.

He gave 10 tips for boosting motivation:

● Be interested – take time to talk to people over a cup of coffee. Staff complain and leave when they don't feel cared about.

● Listen actively – Paul shared tips on how to remain fully focused.

● Recognition – saying 'thank you' or 'well done' is always appreciated. "There's nothing more demotivating than picking up on faults," said Paul.

● Smile more – laughter gives the body a lift.

● Set clear goals - everybody likes to be clear about the aims of what they're doing.

● Give and take – accept that an employee may be contributing more widely than you give them credit for.

● Develop your values – customers and staff buy into your 'unique value proposition', in other words, what you stand for as well as what you do.

● Environment – plants, windows and natural light in the office will spur you on.

● Encourage ideas – everyone has ideas, very few people are asked for them

● Be real – authenticity, you don't have to hide your human vulnerability, lead from the head and heart.

# World Cafe talking points



Helping to get the points across. . . life coach Paul Harris hosted the World Cafe discussions on the challenges facing education and the audio visual industry.

# Pictures from the exhibition. . .

All together now. . . a group picture of SCHOMS '13 delegates outside Elphinstone Hall

# Discussions scheduled after benchmarking put to vote

DISCUSSIONS are to be held on the future of SCHOMS benchmarking after a snap survey at the AGM.

Chair Simon Birkett said the response to efforts to gather information "had not been equivalent to significant investment" put into shortening and redesigning it last year.

"After going through a major revamp, we anticipated a hike in people participating but it didn't happen," he said. "Everyone says it's a good idea but when comes to it, for varying reasons, we don't get the response."

He described benchmarking as "a tool to enable a change in direction, influence future resourcing and to provide quality management information."

He added: "It defines and develops a range of performance indicators and monitors operational services – it gives us all the sort of data that people want us to supply when we're back at base."

He put a number of questions to delegates using PRS - an audience response system that records votes made with handheld devices.

He said the feedback would inform Executive Committee discussions on the future of benchmarking in June.

The questions included:
● how important do you feel it is for AV managers to have access to sector wide data?
● were you involved in completing any part of the 11/12 survey?
● how useful do you feel the SCHOMS benchmarking reports are?

A multi-choice question asking how SCHOMS benchmarking should continue received the largest votes for the following two options:
● continue in similar format but focus only on a subset of the range of services
● continue but with new focus and a range of shorter reports – eg top ten concerns, infrastructure.

## New line-up on Exec Committee

SCHOMS Executive Committee has taken on a new shape - and adopted a new line of succession.

Toni Kelly has stepped down from the Executive after 13 years following her move to the University of Hong Kong from the University of Birmingham.

Steve Ellis and Darcy O'Bree have also stepped down. Steve has now retired from Aston University and Darcy is leaving Hull University to take up a job in the private sector.

Joining the Executive Committee are David Evans of the University of Chester, James Rutherford of the University of the Arts /London College of Fashion and Jay Pema of the University of Cambridge.

Chair Simon Birkett thanked Toni for her support as vice-chair in his first year and said she would be succeeded by Paul Wood, who would automatically become Chair when Simon completes his tenure.

# Training: where do we go from here?

'Training and Education: What's the SCHOMS Strategy?'
Jim Sheach, Learning and Teaching Spaces Technology, Information Services, the University of Edinburgh



MEMBERS mulled over the requirements for, and barriers to, providing staff training and qualifications in a session led by Jim Sheach.

Jim, who holds the training and education remit on the Executive Committee, talked members through a range of matters arising from a review he had carried out.

He said SCHOMS had already delivered a significant amount of training and CPD for its members

including the InfoComm CTS Classroom Course, Learning Spaces Design Workshops, Fellowships and projects, ISE sponsored buyers programme, Acoustics Course and the annual conference.

However, SCHOMS members were faced with several barriers to training and CPD. There was little knowledge of what opportunities were available and Jim questioned how managers would match opportunities to the needs of their staff and service.

Time and cost were also major restraints. "How do we schedule significant numbers of staff to attend?," he asked. "And cost would be a real barrier. I wouldn't say CPD is high up in funding considerations."

Jim wondered how important certification or registration was to members. "Do we ask for AV certification when recruiting staff? To improve the standing of our 'industry' does that have to be part of our strategy?"

He suggested linking up with training run by InfoComm or Higher Education & Technicians Education and Development (HEaTED) but pointed out that HEaTEDwas still primary focused on science technicians.

Other options included sharing knowledge on available opportunities, developing a training course/event catalogue, promoting local groups of institutions sharing training opportunities or sourcing opportunities.

"Manufacturers and InfoComm are in the game already. There are HE/FE education institutions and there's us. Should we be doing things ourselves?"

Manufacturers will promote a specific product as part of their training offering and SCHOMS could find that difficult, Jim said.

InfoComm ran online and classroom build-your-own courses from modules – such as AV essentials, installation technician and AV/IT integration – for InfoComm members, but SCHOMS could also purchase.

Jim pointed to SCHOMS' acoustics course in Leeds as an example of a SCHOMS commissioned course using an HE provider. "But generally these are pre-employment courses.

"The media industry and technical theatre appear better integrated and engaged with education than the AV industry."

He felt a question mark hung over talk about SCHOMS being able to create and deliver its own material. "It's hard and time-consuming to even come up with our own design guidelines," he said. "It needs lot of time, effort and commitment."

He threw open discussion on where SCHOMS needed to focus its efforts. Members were asked what they wanted to achieve, what were their priorities and how would any training be funded, organised and delivered.

The discussion will continue within the Exectuive and Jim will feedback to the membership in due course.

## schoms shorts

## Great acoustics

SCHOMS was praised in feedback from attendee Mark Dunlop for the acoustics course it ran at Leeds in March.

Mark, Senior Technical Analyst - ICS, University of Dundee, said his perceptions had been changed and he had learned new skills.

"Content was fairly covered. There were good spaces and the course demonstrated the effects of different issues and gave us a good understanding," he said.

Mark said it had been a valuable experience and provided evidence that SCHOMS could create benefits for its members. "I'd advise colleagues to give courses a go."

A second set of courses is due to take place in June.

# Watch this space for digital dip into shared archives

**SCHOMS professionals are well acquainted with the challenges and practicalities of physical learning spaces. But Mo McRoberts, an analyst with BBC Archive Development, asked them to consider the role they could play in the construction and potential of digital space dedicated to research and education.**

UNIVERSITIES are being asked to get in touch with the people behind a unique project to archive education and research material.

The Research and Education Space (RES) - a digital space being built jointly by the BBC and JISC, an independent agency that supports digital technology in the sector – aims to pool archives and make them available to students, researchers and academics across the UK.

"There are a lot of institutions and a lot of different catalogues," Mo McRoberts told delegates. "If we could express information in a common way that allowed links between assets, we could do something interesting.

"What we are asking universities is – will you help us? We want people to get involved whether it is by feeding into the project or consuming from it. Get in touch and we can talk about how you would like to see the resource used."

He asked delegates to imagine what the digital equivalent of a public space could look like and what it could contain.

While acknowledging the challenges presented by publicly-held archives - including rights, identity and distribution - he said the aim was to make them available to as many people as possible.

Mo explained how RES grew from the realisation that the audio-visual archives of the BBC contained a wealth of material gathered since it was founded in 1922. However, much of it remained largely inaccessible, held on film or videotape.

It first manifested itself in a joint project between the BBC's Public Value Partnership and the Arts Council England called The Space - a

creative website delivering digital art to audiences.

This involved dozens of organisations ranging from the British Film Institute to the Globe Theatre and was dedicated to promoting the range of artistic activity taking place around last year's Diamond Jubilee and the London Olympics and Paralympics.

The BBC's over-arching mission is to create a shared technical platform for indexing, searching and publishing material in partnership with other UK cultural organisations.

Over the next three years, RES will set out to develop and open up the archives for use within UK education and research.

The first phase – to upgrade the British Universities Film & Video Council's online TV and video service Box of Broadcasts (BoB) and provide a link to the BBC broadcast media archive – will be completed in October.

This will give BoB users online access to a collection of BBC content.

In the longer term, it is hoped the project will provide more cost effective ways to provide access to high quality and highly demanded archival content.

## schoms shorts

### Worst case scenario

INSURERS expect there will be a fire in a Scottish university every two years.

Bruce Rodger, Head of Infrastructure Services at University of Strathclyde - where fire broke out in a chemical engineering lab 15 months ago - urged delegates to think now about disaster recovery and business continuity.

"Think what you would do if you lost teaching rooms, prepare now and in the event, make documentation as you go along."

Bruce described how 50 teaching rooms were lost through water and smoke damage in the fire at Strathclyde's James Weir Building 15 months ago. It remains closed.

Recovery measures included creating temporary teaching rooms by adapting existing space in the cafe, social spaces and other departments. The neighbouring Cineworld was hired at a morning rate of £150 an hour to hold lectures.

### Network support

A FIRST-HAND account of work to create a flexible, modern networking space in Mountbatten Library at Southampton Solent University was given by Classroom Technology Support Analyst, Ian Taylor.

Innovative spaces for group working – such as techno-booths with hi-spec PCs and modern tables and chairs where students can use mobile technology – sit alongside a zoned area for open presentations on key employability skills, exhibitions and training.

There are also small group working pods to be used flexibly for meetings and training as well as by students.

# Think cocktails instead of moulds

THINK outside of moulds and stereotypes when it comes to the design of learning spaces – that was the message of Jason Wheatley, Manager of Interactive Learning Services at the University of Sydney.

"We all tend to think that way – in fact, estates people just want us to tell them what the standard is, go away and not think about it at all."

He said the moulds were the lecture theatre, seminar room, tutorial room. . . "in the first version of our guidelines we attempted to define what equipment should be in these categories.

"But that doesn't cut it any more, it's not a true representation of the range of things we're doing – such as informal collaboration pods with touchscreen computer and free wireless network, AV interacting with PC, we've jumped the boundary. There are now virtual spaces parallel to physical spaces."

Jason said the target audience for the guidelines was not the academic community, it was colleagues in the design process like architects and AV teams. "We set functional standards but we do not suggest specific equipment. Each member approaches that under their own circumstances."

He said the guidelines had been drawn up in recognition of the fact

**Jason Wheatley, vice president of the Association of Education Technology Managers in Australia, based his presentation on the second edition of the AETM guidelines for learning space designers that he has helped to produce.**

that design professionals did not think with one mind and one solution did not fit all.

"I think we have a problem in our industry in terms of respect for the skills and knowledge that we have. So the guidelines attempt to specify what the skills set and qualifications of a designer should be. They also cover the role of the AV section. There's a strong role for us in the design process."

Jason gave examples of the information in the guidelines about specifications, lighting design and acoustics.

This included rules for screen sizes

and sightlines, how high off a flat floor a screen should be positioned, how close should a screen be to viewers, the ideal positions for a projector.

He said the guidelines used use the InfoComm contrast ratio standard to hammer home a lighting result from an early design start.

And in the complicated world of acoustics, they were trying to achieve a decent speech transmission index – "a mix of acoustic environment and how audio systems perform."

He reiterated that all the information was geared to breaking the mould. "We've dumped trying to define what is a lecture theatre and broken it down into trying to capture the reality of what we're doing."

He said the the guidelines revolved around:
● size - small, medium, large
● presentation - central display, distributed, streamed
● collaboration - BYOD, shared, individual PCs.

He described this as a mix and match of information – "a cocktail, something a bit fruitier than a lecture theatre."

# Digital learning Cubed in $230m development

A STUNNING insight into one of the world's largest digital and interactive learning and display spaces was beamed over by Dr Gordon Howell.

Speaking by video link, Dr Howell – Associate Director Learning Environments Support at Queensland University of Technology – took delegates on a tour of the Cube, the centrepiece of a new $230 million Science and Engineering Centre at his Gardens Point campus.

Commanding two storeys of the

centre, the Cube is designed to support interactive displays of research projects using advanced digital technology, including 14 high-definition projectors, over 40 multi-touch screens and sound technology.

Part science lab, part digital engagement – and with the capability to replicate environments at a real-world scale – the Cube is intended to help students and the public to discover, visualise and contribute to research projects.

Dr Howell spoke on other aspects of his responsibility for the technology support of QUT's 40,000 staff and students; the enhancement and support of the technology in the university's 300 lecture theatres, lecture rooms, classrooms and video conference facilities and the manage-ment of Managed Operating Environ-ment covering 8,500 computers.

See a video of QUT developments at https://www.youtube.com/watch?v=ufo5RoCQgMs

# 'Flipping' shows how technology can be applied to teaching

**Dr Natalie Rowley, lecturer and Head of Educational Enhancement and Innovation, School of Chemistry, University of Birmingham, demonstrated a powerful 'clicker' technique.**

'LECTURE flipping' clicked into place for delegates when Dr Natalie Rowley gave an interactive presentation.

Her talk on the "preliminary findings from an investigation into the effects of lecture flipping on the student learning experience" included a demonstration of one of its features – electronic voting sets (or 'clickers') for delegates to give their answers to multiple choice questions.

Using this method to answer one of her questions – "Is lecture flipping used in your university?"– it was instantly discovered:

It is widely used – 10%
Occasionally used – 37%
Not currently used – 22%
I am not sure – 31%

Dr Rowley explained how she and her colleague, Dr Jon Green, had been trialling 'lecture flipping' this academic year at the University of Birmingham.

"It's a powerful technique that demonstrates how technology can be applied to teaching," she said.

When lectures are "flipped", students receive information in advance of lectures in various forms – such as by directed reading or online through screencasts (such as narrated PowerPoints) or videos.

Students test their knowledge with accompanying online quizzes and identify any points of difficulty or questions they have on the topic in advance of the lectures. This is an approach referred to by Gregor Novak and co-workers as 'Just-in-Time Teaching'.

Lectures then become more like class tutorials – they can be tailored to the specific needs of the students by covering points that they have requested and answering any questions that they have raised.

Lectures also become more interactive through the use of 'clicker' questions and by live problem solving.

Dr Rowley and Dr Green have been piloting a 'clicker' technique pioneered by Eric Mazur, known as 'Peer Instruction'.

Students are asked questions and are offered a choice of answers to which they respond by 'clicker'.

The responses are displayed without students being told the correct answer at this point. If there is a split between the correct answer and another, students are asked to discuss their choice of answer with their peers, preferably someone who has answered differently.

After discussion the students vote again and what is usually seen is a large shift in the number of students who now have the answer correct.

"By discussing with their peers, students learn from one another and help to correct each others' errors in understanding topics," said Dr Rowley.

Student feedback had so far been very positive. While Dr Rowley and Dr Green await results to show whether their 'lecture flipping' has had any effect on exam performance, they have received funding for research from the STEM Education Centre at the University to undertake a more detailed pedagogic study that they hope to publish.

## Video challenges

VIDEO in education is increasing and Kerr Gardiner, Head of Learning & Technology Unit, explained how the challenge was being met at the University of Glasgow.

Kerr said video was popular because it helped revision, gave academics greater flexibility and made lectures and course work more interesting.

The challenges in delivering it at Glasgow included rights, technical quality, production values and the difficulties of a coherent and consistent approach within IT caused by a fragmented approach.

One of the key ways Glasgow was meeting the challenge was to talk to academics about what they were trying to achieve and guide them to the most appropriate tools.

A supplier framework of external video companies was also being considered to help meet the demand.

## New dimensions

MEMBERS were taken on a 3D journey from 300BC to the modern day by David Walton, AV Services Manager at the University of Aberdeen.

He spanned the history from Euclid's quote – that the 3D we perceive "is due to the fact that our eyes simultaenously receive two almost identical images but the brain resolves them as one image with depth" – right up to first 3D TV broadcast by Sky in 2010.

He then explained how the University of Aberdeen chose the 3D equipment it operates - from the video wall gifted by Halliburton and used by postgraduates in Geosciences to the latest system used by the Medi-Cal unit that can take both CT and MRI scans and render them as 3D images suitable for teaching within a matter of seconds.

ALL eyes are turning to the University of Exeter for the SCHOMS '14 conference.

The date is being switched from May to June following positive feedback in a members' survey.

The proposed switch received support from 90% of the respondents. SCHOMS '14 will be held at Exeter from 17-19 June.

Of 56 responses, 60% said June was a good date and 30% said either May or June was suitable.

# Exeter provides award-winning Forum

SCHOMS members will see at first hand the flagship £48m student services building at the University of Exeter that has won a 2013 national award from the Royal Institute of British Architects (RIBA).

The development houses a new Student Services Centre, an extended and refurbished library, new technology-rich learning spaces, a 400-seat lecture theatre, retail and catering outlets, a landscaped piazza and a new University reception, ensuring the University of Exeter offers an outstanding experience for students.

The Forum will now go on the long list for the RIBA Stirling Prize for the greatest contribution to British architecture, due to be presented in September.

Designed by Wilkinson Eyre Architects and constructed by Sir Robert McAlpine, work began on campus in March 2010.

After 72,594 man-hours of work, 4.5 Olympic swimming pools of soil removed and 2409 m3 of poured concrete, the Forum was officially opened by the Queen on 2 May 2012.

Michele Shoebridge, Director of Academic Services and Deputy Chief



Operating Officer, said: "The Forum reflects and represents the importance placed on the student experience." **http://www.exeter.ac.uk/forum/ learningspaces/**
● The University of Exeter was named 'Sunday Times University of the Year 2012/13' and is one of the top 200 universities in the world according to the Times Higher Education's World University Rankings.

Exeter scores particularly highly for student satisfaction, completion rates, and for students achieving good honours degrees of 2:1s or firsts.