Capturing our attention

A FASCINATING range of learning technology developments and talking points were captured at the SCHOMS16 conference at the University of Bath in June.

Now it's time to replay it – thanks to this issue of Connections – and review how it all plays out in the practical surroundings of a new semester.

As you may have gathered from the wordplay, lecture capture – or 'content capture', or 'live capture' or any of its many other variations – featured heavily in conference presentations and sessions.

Delegates compared the pros and cons of lecture capture after SCHOMS executive committee member Tessa Rogowski presented the results of a survey into how it was being used in member institutions (page 9).

Rob Jones, Instructional Design Consultant at the University of Birmingham, outlined some of the event capture ideas being applied at the institution's newly-formed Technology Enhanced Learning (TEL) Hub (page 9).

Matthew Green and Jon Rhodes of the University of Wolverhampton described how it was central to turning the tables on learning space design at their new Rosalind Franklin Centre science block (page 11).
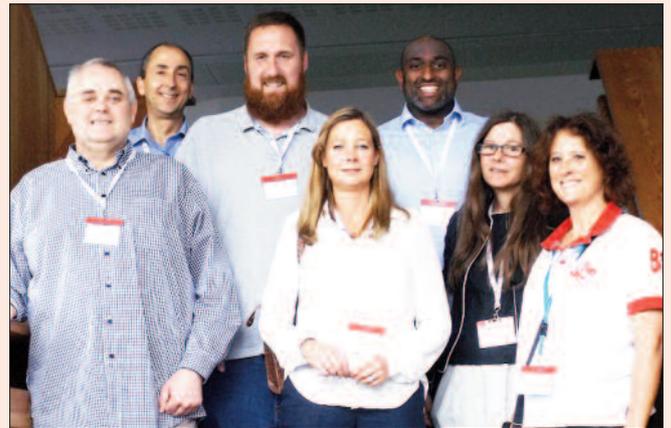
Presenting the SCHOMS executive committee for 2016-17 (from left) Paul Wood, chair; Chris Gooch, secretary; Mark Dunlop, LTSMG, ISE and InfoComm liaison; Caroline Pepper, vice chair and supplier liaison; Jay Pema, treasurer and communications; Tessa Rogowski, SCHOMS Bursary Scheme, and Catherine Cadogan, administrator. Not in the picture are Jill Snelling, conference planning, and Mark Warren, co-opted as conference host for 2017.

SCHOMS16 was attended by 70 delegates from 51 UK institutions – including first-time members from the University of Malta, Falmouth Exeter Plus, University of Roehampton, Manchester Metropolitan University, University of Wales Trinity St David and King's College London.

It was also marked by the official launch of The UK Higher Education Learning Space Toolkit – a collaboration between SCHOMS, AUDE and UCISA.

The toolkit, which includes guidance for audiovisual, IT and estates teams, was praised as "a monumental effort" by SCHOMS chair Paul Wood (page 12).

Attending from over land and sea. . . SCHOMS chair Paul Wood (left) with overseas delegates Stefan Ancilleri and James Cilia of the University of Malta (back row); Terry Coe, president of SCHOMS' sister organisation AETM (centre) and Toni Kelly of the University of Hong Kong.

Make a date **SCHOMS17** Keele University 27–29 June 2017

Supporting role of technology

In his conference welcome, University of Bath's Vice President of Implementation, Steve Egan, stressed the importance of technology in giving students the best chance of learning and of realising their ambitions.

TECHNOLOGY is just one of the means to improving teaching and learning, Steve Egan told SCHOMS16.

"Technology itself should not drive change, it's about the role it can play in supporting academic and student motivation," he said.

Steve, whose responsibilities include customer services, praised the 'outstanding back-up' of AV Service Manager Rob Hyde and his team at Bath. "They have a great reputation for customer service and responsiveness," he said.

Developments at Bath included mobile capture, streaming and the LITEbox initiative to raise awareness of the potential uses of learning technologies.

He also spoke of how £1m a week was spent on capital development at the University – highlighting a £30m expansion of the Department of Psychology at 10 West; purpose-built research and teaching space for the Faculty of Engineering & Design at 4 East South and a city centre learning zone with office space for student-facing services in Manvers Street.

"There is a unique culture at Bath – collective, collaborative, there's little political infighting. It really helps people to work together."

This spirit, combined with research, led to very high student satisfaction. "We have a deep concern for the students, at personal levels as well as academic. We're genuinely passionate about that."

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Now hear this. . . why acoustics are a priority

IT'S easy to forget how important sound is in communication, Shane Cryer told SCHOMS16.

The Department of Education placed it as second only to lighting in planning learning environments – ahead of ergonomics, air temperature and air quality.

"Architects and builders like form and function and colour and texture. Sound has none of those things. It's invisible, odourless, sometimes it can slip down the priority list," Shane warned.

Yet it was known higher noise levels meant lower academic performance and increased stress in teachers and students.

"Acoustics plays a fundamental part in the ability to learn and memorise. If you don't get it right, then you can throw a lot of effort at children and students and they won't take that information away."

He alerted delegates to forthcoming regulations – Building Bulletin 93, part of building regulations E4 – that would make it compulsory for proper acoustics to be applied to design.

Shane demonstrated a sequence of frequencies - some of which delegates heard, some of which they failed to hear, depending on a number of factors including age.

"Sound is not level for all of us, we think we might have got it right but we need to apply standards, because those we are designing and building for are hearing differently to the way we are. They have a problem in lecture theatres that you are not picking up on at all."

He described the 'student soundscape' as "hearing things that we don't even know exist – ballbearings in

In his keynote presentation 'A Sound Education – sound solutions for poor acoustics', Education Concept Developer Shane Cryer spelled out the fundamental part acoustics plays in academic performance and mental wellbeing. Shane manages the education sector in UK and Ireland for Swedish acoustics manufacturers Ecophon.

faulty mechanical ventilation, sound coming through road rumble – high frequency sound in particular takes focus and attention away".

Shane also spoke on how sound affected our mood and physiological and mental wellbeing.

"Our heart rate mimics what's going on in the sound environment," he said. "If we're in a reverberant or noisy space, our heart will mirror that. It's involuntary.

"Reducing our heart rate is a lot better for us. As a society our blood pressure is too high and we need to reduce it."

Shane went on to explain measurements for speech intelligibility in lecture rooms and classrooms.

In ancient Greek and Roman theatres - upon which today's lecture theatres are still based - speech intelligibility could be achieved at 60 metres. "Sometimes we can't get an excellent speech intelligibility result at eight metres," he said.

But there was an aim 'to put the sky back into the lecture theatre' – to replicate the external conditions to which our ears were tuned and where we felt happiest.

These conditions helped to eliminate low frequency sound and combat

" Sound is not level for all of us, we need to apply standards. . . those we are designing and building for are hearing differently to the way we are "

‘flutter echo’ - the sensation of hearing one's own voice bouncing back.

Shane gave the example of an ancient outdoor classroom in which the back row was less than nine metres away from the signal source (or lecturer).

"That's because, at 60 or 62 decibels, the high frequency of the conversational tone will only travel about nine metres before it goes into decay. Anybody sitting beyond that will hear only the low frequency sounds or the vowels and that's what we definitely don't want."

In Greek theatres, the shape of the structure acted like an acoustic filter, eliminating low frequency sound.

The longer wavelength of a low frequency sound meant it travelled further, Shane explained. In speech, this accentuated vowels.

"Consonants contain more information but have very little energy. They will travel about eight and half metres and then deteriorate. Vowels are like snooker balls, endlessly ricocheting around but giving no information."

Shane said that, even though people sat only a few feet from each other in today's classrooms or lecture theatres, this meant one would get all of the sound while another would only get half of it.

'Flutter echo' was a concern because technicians often got involved retrospectively to correct it in lecture theatres.

> **Acoustics plays a fundamental part in the ability to learn and memorise. If you don't get it right, then you can throw a lot of effort at children and students and they won't take that information away**

He gave the example of an expensive lecture theatre that remained unused after a lecturer refused to speak in it. "He could hear his own voice coming back," Shane explained. "The students could hear everything no problem, but sound was bouncing backwards and forwards between the narrow parts of the theatre where the lecturer stood. We put up a couple of wall panels to solve the problem.

"Any sound that leaves the lecturer and travels more than 17 metres goes beyond a point that your brain says is an echo – you can deal with it but only for about an hour and a half, depending on age and sex, at that point you feel very drained, you've burned lots of calories, and research has shown it's very hard to memorise if your echo filter is tripping."

An acoustic ceiling or rafts usually helped to eliminate the path of that sound, Shane said. "But in a typical size room, anything above 2.8 metres, wall panels are needed."

Low frequency absorption had become very important. "If low frequency can pass through a masonry wall it can surely go through a suspension ceiling, hit the soft brick and bounce back."

He recommended the use of ceiling pads – "these are not fixed, can sit in interesting horseshoe shape, don't require skilled labour and soak up the low frequency sound.

"We're trying to eliminate reflections as much as possible, they're very bad for us and can ruin a multi-million pound facility, lecture theatre or open plan offices."

Introducing a new column where we ask 'first-time' delegates for their impressions of our annual get-together. HELENA BAMPTON of the University of Reading gets us underway. . .

Why did you attend SCHOMS16?
I have a new role at the university that now incorporates AV facilities and teaching rooms.

What were your expectations?
Not coming from an AV background, I was worried that the presentations would be at a very technical level and beyond my understanding.

What did you enjoy most?
Networking with other institutions, hearing about their experiences (very similar to ours in many cases), and gathering new ideas into what might be possible in our own teaching spaces

What was the most surprising element?
To find how much I actually got out of the conference. I found the presentations very interesting and not too technical for me to understand. In fact I feel that I have improved my knowledge of AV and its use in teaching spaces.

What was the most valuable element?
As it is a hot topic at our University at the moment, I was very interested in the presentations relating to lecture capture, particular finding out who is using what and how.

What was the key message that you came away with?
There is a need in universities to recognise the value of AV in teaching spaces and to ensure that it is given the right level of priority in new projects at an early stage.

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What and why of technology

Dr John Troyer - Director of the Centre for Death and Society at the Univerity of Bath, also lecturer in the Department of Social and Policy Sciences and an RCUK Research Fellow - questioned whether it was time to re-examine what's considered to be classroom technology.

TECHNOLOGICAL aids have helped classroom teaching and learning in many ways, John Troyer told delegates. But today's challenge was to make sure it wasn't 'all about the tool, not about the teaching'.

"When we think about technology, we're really slipping into the digital at the expense of what has been a long history of human innovation," he said.

"I can tell you that the most valuable technology I have used in my lifetime is corrective lenses set in glasses that has allowed me to see. If I had not worn glasses since the age of about five, I would not have had the professional success I've had.

"For me, technology has always been about craftsmanship and the sitting of nature, that means we can look at it in every way possible."

He said that people who worked in education could sometimes misunderstand what students considered technology to be. "Many of us have done a disservice to the younger crowd in thinking they are all digital natives from the Matrix," he said.

"I had an amazing moment with an undergraduate who I was helping to register for class. He was terrified of registering so I ended up entering the information. The student said 'I don't like technology, it freaks me out'. He said this while holding an iPhone. I asked him what he had in his hand and he said 'that's my phone, that's not a computer'.

"At what point did we get the memo, or the email message, that says technology is the phone?"

John explained why he did not use Powerpoint while he was teaching. "I've found that students, through a different range of experiences with technology, find it alienating," he said. "They can find it difficult to digest the information. However, if you outline the information and have them write it down – and I do record lectures so they can listen back – they'll tell me, 'I learn more, I remember it better'. Students with dyslexia will also tell me they prefer having it written on the board because they can see it, it doesn't

change and they can focus on it.

"All this is to say we're in a period of higher education when we should start to rethink or re-examine what we consider to be classroom technology."

He felt it was also important to consider how quickly technology could disappear. "Zip disks are only 10 years ago but if someone has information stored on one, it can only be accessed on a zip disk drive and these machines are increasingly becoming harder to find.

"If everything today is stored in the Cloud, and the Cloud becomes inaccessible for whatever reason, we're in a really tough spot."

John was concerned at a pedagogic teaching level that we might be teaching students 'it will always, always be there'. "If everyone assumes that technology is always going to be there, how do we think it through if it's not," he asked. "We have to understand how dependent we can become on technology.

"I think this is important because if there's anything we can guarantee about technology, it's that we know it's going to change. Whatever we're do today will be totally different in five or 10 or 20 years."

Much of what was being built today could be left behind, he warned. "I'm not convinced everything we've been doing for the last 30 or 40 years, or even for the next 10, will make it to the next step."

John said delegates had an important job to raise consciousness about the fragility "and sometimes the futility" of technology in universities.

"It's been my experience that universities really want to buy something expensive and super hi-tech looking, even if it doesn't work," he said. "But we have to say 'if we're spending this now, how much further down the road will it work'. A lot of it we don't know, but we've got to the point where we can speculate."

> **If there's anything we can guarantee about technology, it's that we know it's going to change. Whatever we're doing today will be different in 10 or 20 years**

Lecture capture: the state of play

DISCUSSION groups compared the pros and cons of lecture capture after SCHOMS executive committee member Tessa Rogowski presented the results of a survey into how it was being used in member institutions.

Tessa, who is Assistant Director, IT Services at the University of Essex, reviewed 60 responses about the day-to-day running of video/audio uses in universities.

Delegates were split into groups of those whose institutions did and didn't have lecture capture systems "to share lessons learned and to consider possible improvements to existing services," according to Tessa.

Those who didn't saw the biggest barriers to introduction as funding, politics, technical expertise, leadership and resistance from academics.

Those who did said the biggest barriers to introduction had been professional fear and embarrassment, intellectual property, service ownership, confidence and resources.

The groups were also asked to discuss the aims of institutional policies for lecture capture and how users of the system were supported.

The lecture capture survey asked wide-ranging questions of institutions from how many recordings per year were made, how many views were received and what subjects were covered to what proportion of rooms had lecture capture installed, what formats were used and how was supplier support rated.

The majority of answers were supplied by universities with between 15,000 and 30,000 students.

Tessa said slides of the full results could be made available by email and added: "I would like to see some qualitative data myself about what students think, how much they like it and where they can find the greatest value, so when costs have been driven down to the minimum amount, all of the FTE cost can be put into providing the value-add aspect of it."

'Lecture capture' was a misnomer, Rob Jones, Instructional Design Consultant at the University of Birmingham's newly-formed Technology Enhanced Learning (TEL) Hub, told delegates.

"We want to get away from that, we want learners to think about the event that's taking place," he said. "A more accurate term would be 'event capture'. People think of lecture capture as only being used in the lecture theatre."

He praised the science learning model at the University of Wolverhampton (see page 11) of devices in labs where students could see a live feed of an experiment, replay it or record their own attempts at it.

"We've got students using their own mobile phone to video and upload materials, whether on a field trip or to demonstrate a skill they need before going into a lab," Rob added.

He also revealed how third year law students had worked with academics using Panopto to produce resources for first year students – hand-written notes using the visualiser. "I'm most proud of this," he said. "We finally got rid of OHP, whiteboards and blackboards and got round it with twin visualisers.

"The students did this themselves and the feedback has been fantastic. One student is coming back as a postgraduate to continue it. If students can be producing resources as well, you can be building a huge library."

Rob said students had found it simple to use Panopto although "we didn't get it right first time, we expected competence from students that they didn't have. They need time to develop those skills. This has to be considered when embedding event capture into a programme."

He explained how his university was moving towards video feedback and reports for students – and how it was continuing to develop flipped classrooms with plans for simulated live news feeds, recreating a media catastrophe with mock real-time interviews and increased role play available through both Panopto and Canvas systems.

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JON RHODES of The University of Wolverhampton continues our new column in which 'first-time' delegates give their impressions of our annual get-together.

Why did you attend SCHOMS16?
I was presenting and keen to hear of others' work in the field; expand my knowledge of current HEI practice.

What were your expectations?
To be introduced to new approaches, new technologies and build contacts in the sector.

What did you enjoy most about the conference?
The presentations and the learning space tour. Also the opportunity (in a busy schedule) to talk to colleagues from across the UK and share experiences/reflect.

my first SCHOMS conference

What was the most surprising element?
Shane Cryer's presentation on 'A Sound Education.'

What was the most valuable element?
Sharing work at presentations, opportunities to collaborate/ discuss and the suppliers sharing their products… sharing

**What was the key message that you came away with?**
That we face similar issues and can share/collaborate to resolve them.

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SCHOMS delegates line up for the traditional conference group photograph in the East Building at the University of Bath.

schoms16 in pictures
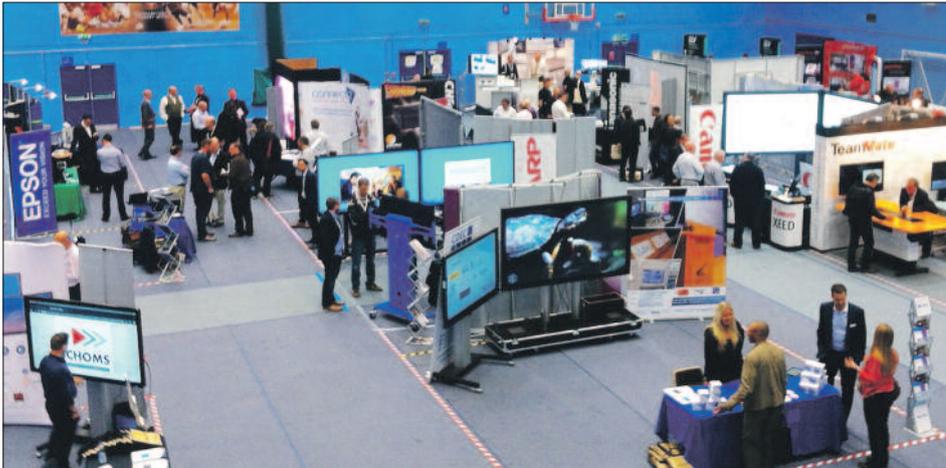
SCHOMS again played host to the UK's largest suppliers exhibition with an HE focus. Companies set up exhibition stands in the East Building, giving delegates the chance to discuss products, developments and requirements.

Making the most of InfoComm membership

Chris Lavelle, InfoComm's Regional Director for the UK and Ireland, spoke to delegates on how to make the most of their membership.

He outlined a range of programmes including a free online Essentials of AV Technology course and both AV Network Systems and CTSi preparation courses in the London area in November.

"We try to get all staff from all universities to do all the essentials and gain on-site recognition on campus," he said.

Outside London, he said a 'round table' event was planned for Dublin and a networking event for Edinburgh. He asked for any event suggestions to be passed on to either himself or Mark Dunlop, the SCHOMS liaison for InfoComm. "We're always working to see what works for our members," Chris said.

Chris also gave an update on planned sessions for ISE 2017.

my first SCHOMS conference

'First-time' delegate GAVIN MACKENZIE of the University of Cambridge Department of Engineering gives his impressions of our annual get-together.

Why did you attend SCHOMS16?
My job role changed and now requires more contribution to audio visual strategic planning and redesign of learning spaces, services etc. I wanted to see how others were acheiving similar goals.

What were your expectations?
Attending conferences is new to me and I expected to be clearly identified as a 'newbie' and possibly overwhelmed by the level of experience and capabilities of other attendees. I expected to be a little 'out of my depth'.

What did you enjoy most?
How friendly everybody was! I was encouraged to take an active role and was not dismissed as a newbie in the slightest. It was a real boost to my own confidence in my new role.

What was the most surprising element?
How much I learned. Finding out that everyone else seemed to be facing the same issues that I am!

What was the most valuable element?
Making the connections, putting faces to names, drawing on everybody's experience

What was the key message that you came away with?
The importance of sharing experience and good practice – I learned more in the few days of the conference from simply discussing things with other people than I had done over the past year. Well worth it.

Show your understanding

Amanda Wylie, Staff Development Manager at the University of Bath, presented an interactive workshop on 'Understanding yourself and others in relation to engaging with customers'.

ENGAGING with customers – particularly people 'not like us' – was critical for our development in an increasingly difficult marketplace, Amanda Wylie told SCHOMS16

" It's very easy as leaders and as managers to communicate with people who share our values, who we respect because of their career or credibility," she said, "but the challenge comes when you have to lead people you don't respect quite as much or don't have the same work ethic.

"No matter what business we're in, our core role to communicate with customers."

Amanda asked delegates to discuss who were their customers, what were the challenges when engaging with them and what they considered to be the challenges facing others.

It's at the heart of whether we get on with people or not," she said. "Sometimes we don't match personalities. How we communicate and engage comes down to how we listen and how we speak, then how we connect on matters of body language, such as making eye contact."

She used the personality profiling tool ICS Connect to demonstrate the similarities and differences between people and how to flex individual styles to connect with anyone – family member, colleague or team member.

ICS Connect differentiated betwen red, yellow, blue and green personalities – "one is not better than the other,' Amanda said, "they often work in pairs, also in opposites. Each of us have all of these colour energies within us, it's just that we choose to show our dominant pair to the world while the rest is kept inside our core."

● 'Fiery' red energies were characterised by their interest in gap analysis – where are we now, where are we moving to. "They're not really interested in the bit in the middle," Amanda said. "They're usually the leaders, they tend to love being in authority, don't like it being done to them. They're very clear individuals, extremely determined. Be clear, be concise, be gone."

● 'Sunshine' yellow energies liked to create new experiences and ideas. "They're usually fun, energetic

Blind faith. . . a team exercise to make a rope rabbit demonstrated our different colour energies. Picture courtesy of Duncan MacIver.

people to be around. Even if it's a poor idea, they will get behind it enthusiastically. But while they're good at generating ideas, they're not quite as good at following through."

● 'Cool' blue energies concentrated on logical process. "They're often quite cautious, formal people, very analytical and detailed. They love more and more information, to find evidence, data, if you ask for a decision too quickly, the answer will be no."

● 'Earthy' green energies were ruled by honesty and harmony. "They love engaging with people, are values driven, calm, supportive and encouraging of others."

Amanda asked delegates to try to identify these colour energies in interactions. "Look for indicators to tell you how to flex your style. Think about what they are listening for. To get skilled at communication, you have to work with the people you find most difficult and for whom you might have most judgment. If you commit to communicating with people you find most tricky, that might give you a return in terms of relationships."

This was particularly important during periods of change, which tended to amplify behaviours.

"People go through a cycle of denial, resistance, exploration, acceptance – the same kind of change curve you find in bereavement," she said.

"New organisational structures, too few staff, changes of academics and professional services are all hard," she said. "When we're under stress that has an impact on our behaviour too. If you know that you react under pressure, step back and think what you want from conversation or to build in a mind.

"Engage your customer, be flexible in your approach, Listen and build trust. Don't worry about the answer – just ask the right question."

// To get skilled at communication, you have to work with the people you find most difficult and for whom you might have most judgment //

Finding the missing LYNC

Mark Burden, Field Service Co-ordinator at Swansea University, spoke about a Welsh Video Network pilot project to link traditional standards based video conferencing to Microsoft Lync - or Skype for Business, as it is now known.

He revealed details of work on a video gateway to bridge the two technologies required by each system.

The gateway gave organisations access to a video conferencing pool thanks to Swansea University allowing the use of its server space and the loan of licences.

Mark talked delegates through the different protocols for logging on to both systems and of some of the changes required of participants to help make integration work - including signing up to Skype for Business (SfB).

"A few institutions joined the trial, Bangor University used it, but others didn't understand the premise, they liked the idea but didn't have SfB.

"The main technical goal was to get an SfB person in an office to talk to a room, whether in their own organisation or somewhere else."

Mark gave a video demonstration of how an SfB user in Bangor was routed through to an office-based colleague in Swansea using the gateway.

One of the means was to create a list of all studios and drop it into an SfB contacts list, allowing users to search and call a studio direct, without going through the Vscene system needed for standard-based conferencing. "The feature could be used both ways," Mark said.

He said the gateway could offer greater flexibility for contact such as interviews and 'virtual rooms' for feedback between lecturers and students.

Medical virtual journey

Senior research professor Nigel John, who holds a chair in computer science at the University of Chester, spoke on 'The Technology Needed to Build a Virtual Environment for Training Medical Procedures'.

DELEGATES were taken on a journey of changing medical technology trends by Nigel John - from large scale graphic display screens in the early Noughties to head-mounted virtual reality today.

His journey began in 2002 at the Visualisation Centre, Manchester, with £250k investment in a curve screen that used three large front-end CRT projectors to display lifesize models of human anatomy to students.

Later, at Bangor University, Nigel noted that a powerwall facility with 3D projection for anatomy learning cost under £20,000 - "ten times less than ten years before. The entire stereo set-up ran from a single projector and large screen."

It was at Bangor that he began to run solutions on standard, high spec PC with a graphics card. He also developed tactile feedback devices – allowing operators to 'feel' such procedures as needle puncture during virtual patient simulations – and an iPad app taking medics through the steps of tackling high fluid build-up in ventricles of the brain.

Now at Chester, Nigel said he was excited about the university taking delivery of HTC Vive virtual reality headsets and applications that allowed the virtual dissection of models using a hand-held controller.

He said: "2016 is definitely the year of head-mounted displays and portable technologies. We won't be using large-scale technologies so much.

"Cost performance continues to improve, I get more for my money every year. it's easier to develop 3D content and all students use Unity so we have applications that run straight away."

STEFAN ANCILLERI of the University of Malta concludes our new column in which 'first-time' delegates give their impressions of our annual get-together.

Why did you attend SCHOMS16?
To learn about new trends, share experiences and enhance my professional network.

What were your expectations?
I was sure from all the email correspondence that it was going to be a well organised conference. Also at LTSMG last November everyone spoke highly about SCHOMS.

What did you enjoy most?
Nearly all the presentations were very informative with very good speakers. I liked the sessions where group work was involved. It made it easier to get to know each other.

What was the most surprising element?
Having come across the AV design guide from AETM during research, it was a pleasure and a surprise to meet Terry Coe, the AETM President, and discuss the guidelines directly with him.

What was the most valuable element?
Networking. Being a single university we do not have the opportunity to network with other professionals in our area of work.

What was the key message that you came away with?
Although we are far away and standing alone we are facing the same problems and challenges as UK universities. It's good to exchange information and realise you are not alone. It gives you the strength to move forward and keep pushing.

schoms shorts

Building digital skills

RECOGNISED digital capabilities help staff to deliver a more rounded student experience, according to JISC research and development lead Sarah Davies.

In her talk 'Building Digital Capability', she said the perception that students came to university with all the digital skills they needed was consistently challenged by research.

She discussed a range of JISC aids to foster the skills needed in a digital university – including tools to help staff self-reflect, online resources to build skills and a leadership development programme to ensure digital capability became a strategy.

"Digital capability is not about button pressing or operating machinery," she said. "It's about managing teaching and learning in what might be a totally inappropriate space, using a creative range of techniques in training, having the skills for location independent working and working with students on their digital capabilities."

4K myths busted

SYSTEMS designers were recommended to have full discussions with integrators and manufacturers before introducing 4K by Crestron education business development manager Marc Poffley.

In a presentation designed to "clear up myths and rumours" about the latest resolution, Marc appraised the qualities of 4K, discussed its implications for scaling and streaming and highlighted challenges it can present on compatibilities.

"If you're going to have legacy products, it runs the risk of introducing imperfections," he said.

"It's more critical than ever that system designers use components they can rely on.

"They must carefully consider the systems they are assembling to provide good end user experience."

Bursary bids invited

BIDS for projects on burning topics of the day that the SCHOMS bursary fund could be used to support were invited by executive committee member Tessa Rogowksi.

She said SCHOMS wanted to encourage more ideas and for the scheme to be more useful to members. "There is an enormous amount of experience in our membership and someone may have expertise in an area where there is a pressing desire," Tessa said.

She explained how the bursary allowed someone to carry out work for which they would not normally have the time, facilities or resource – and to produce a report to inform the community.

SCHOMS awards a number of annual bursaries worth £3,000 and this year the scheme has been made easier to enter.

A rough outline of the plan's aims, estimated costs and proposed timetable was required before an external panel assessed its credibility and ability to deliver teaching and learning technology benefits in the given time.

"What the community gets from it is up to date information, a transfer of knowledge and skills, the best practice available on how to tackle the problem and learning from others' endeavour.

"What the bursary holder gets from it is deepened experience, the satisfaction and kudos associated with answering a problem and a good looking entry on their CV."

In a straw poll of delegates, suggestions for future bursary schemes included AV guidelines update, an idiot's guide to service costing, construction design and management, stakeholder engagement best practice and unmerging merged services.

SCHOMS Bursary Fund helps in valuable benchmarking exercise

FORMER treasurer Jim Sheach returned to the SCHOMS conference podium – this time to present the findings of a survey carried out with £3,000 funding from the SCHOMS bursary scheme.

Jim was a key figure in the drawing up of the "SCHOMS and Loughborough University 2015/16 Benchmarking Report on Services and Teams responsible for delivering learning technologies in the support of teaching and learning activities within higher education".

His contribution was praised by Caroline Pepper, SCHOMS executive committee member and Learning Environments Manager at Loughborough University. "Without Jim, I wouldn't have had the time or resources to do this," she said.

The benchmarking exercise was conducted across eight institutions - Loughborough, Leicester, Bath, Exeter, Essex, Lancaster, Surrey and York - looking at issues such as organisation structure and staffing, equipment replacement lifecyle and technology and room standards.

Among its recommendations were:
• Appointments of overall 'service owners' for learning and teaching spaces
• Use of time recording to enable accurate service costing
• Creation of a service catalogue or SLAs to help define and communicate services.

"I expected all the institutions to roughly match Loughborough," said Jim, "but one of the key things we quickly found was that everybody is different and it didn't turn out to be a standard benchmarking exercise."

LITEbox pulls tech strings

TECHNOLOGY sits side by side with teaching and learning at the University of Bath – thanks to the LITEbox initiative.

Delegates heard that the initiative – which stood for Learning Innovation Technology Environment – brought together all technology-related matters under the same umbrella at the universty.

It allowed anyone working with technology in whatever form to share their experiences, learn about new technologies, articulate the challenges and run sessions on what did or didn't work – all as part of a 'community of practice', according to Sarah Turpin, Head of Academic Resources Skills Centre.

"We're hoping to get some sort of organisational change through the process," she added. "We have a lot of fabulous activities going on and we want LITEbox to unearth all the pockets of innovation and to contextualise technology learning and teaching as a built-in rather than a bolt-on."

Sarah was presenting a progress report on the initiative with Rob Hyde, AV Service Manager at Bath, two years after it was set up with £10,000 funding from the university's alumni fund.

They revealed that the 2-Slide initiative – demonstrated to delegates on an opening day tour of the Bath campus – had grown out of LITEbox. "A colleague in the School of Management was finding that neither clickers nor Powerpoint were working for him and honestly admitted he was struggling to get the level of engagement in his classes that he wanted," said Sarah. "He developed 2-Slide himself, a smart package like clickers and Powerpoint rolled into one. It was unearthed through the LITEbox process."

Flipping the building

IT wasn't just learning that was flipped when a new science block was planned at the University of Wolverhampton – it was the whole building.

Matthew Green, Assistant Director, Academic Learning and Support, and Jon Rhodes, e-Learning Advisor at the university's Centre for Technology Enhance Learning (CTEL), told delegates how their new Rosalind Franklin Centre turned the tables on learning space design.

One of the challenges they overcame was involvement in the planning process from the start - thanks to the lessons learned from a successful earlier collaborative project called the Learning and Teaching Testing Environment.

"We were able to discuss with academic staff how they would like to shape science teaching from a blank piece of paper," said Matthew. "We pulled back the entire process – from academic practice at one end to cables and connectors at the other – to blend and deliver in one workstream."

Technical staff dealt with issues such as Cloud provision, information services division looked at issues like content and copyright and staff from academic development ran support sessions that focussed on the pedagogy before anything about operating technology.

Jon added: "We wanted to design a space that allowed students to be actively involved in learning, supported by the equipment. There's no teacher's desk, no projectors, no microphones, no traditional AV."

Every student in the laboratories has a tablet linked to event capture stations and can dial into live or pre-recorded talks or experiments fed from one of three teacher positions elsewhere in the building.

"It's been really popular," said Jon. "It has enabled staff to be a part of change and for it to be understood how you teach and what you teach."

Space dispute ends in suite success

IRONICALLY when space became available for a collaborative learning space at the University of Western Australia, the departments concerned found it rather difficult to collaborate on the matter!

Teaching and Infrastructure Services Manager Terry Coe – also president of SCHOMS' sister organisation AETM – recalled the dispute to delegates.

The pharmacology and pathology departments struggled to agree on the requirements. "We couldn't get them at the same table at one point," said Terry. "But we persevered and the outcome was very positive for both schools."

The result was a technology-rich wet lab and three interconnected e-learning suites for the two schools within the Facility of Medicine, Dentistry and Health Sciences – and an award for the cabling company that worked on the $6m project.

"We had a good architect and builder on the job, they had a good feel of what we were trying to do from the AV perspective," Terry said.

The learning suites feature six-student pods each with two adjacent live screen displays. One shows data and images from the lecturer while students can switch between their own computers and devices on a matching second display allowing data and outcomes to be effectively compared. At the teaching station, the lecturer can access content from any student's device and deliver it to the individual or all pods.

Updating delegates on general AETM matters, Terry said there were plans to attract extra members from outside organisations such as museums and banking institutions. He also reported on the success of holding InfoComm webinars in different timezones and of setting up a trial chapter meeting of the AETM in New Zealand.

Learning Space Toolkit defines standards

The UK Higher Education Learning Space Toolkit: a SCHOMS, AUDE and UCISA collaboration

A LANDMARK publication on learning spaces was officially unveiled at SCHOMS16.

The *UK Higher Education Learning Space Toolkit: a SCHOMS, AUDE and UCISA collaboration* includes guidance for Audiovisual, IT and Estates teams on

- managing a learning space project;
- working with professional advisors;
- considerations for particular types of learning space;
- using learning technologies;
- the evaluation of learning spaces; and
- changing working practices.

Anna Mathews, Head of Policy and Projects, UCISA, described how the idea grew from a direct approach to AUDE and UCISA by then SCHOMS executive committee member Simon Birkett. "We were looking for something to help us all work together in cross-professional groups," she said, "something strategic and institutional, that had a strong background in the pedagogical reasons for good learning spaces – not how to get them but also why to get them – for good student learning experience."

SCHOMS representatives on the Toolkit steering group - Caroline Pepper, Learning Environments Manager at Loughborough University, and Simon Birkett, IT & Learning Technology Manager at Staffordshire University - outlined the main chapters of the report.

Caroline said the opening chapter, Building a New Pedagogy, dealt with how a space was designed to shape the learning that would take place in it.

The toolkit adapted and refined a set of guiding principles to inform design. These included creating a sense of community; integrating and connecting learning - between disciplines and age groups; meeting a range of different learning needs; providing a comfortable environment; supporting the infrastructure and making sure the technology was effective.

When it came to Working in Partnership, Caroline said that the stakeholders of learning spaces and projects - and especially end users - needed to be involved from the outset.

"There's a general view across HE that AV and IT is often brought into the project too late, often results in us having

"An incredible collaborative project". . . more on the toolkit can also be found at www.ucisa.ac.uk/ learningspace
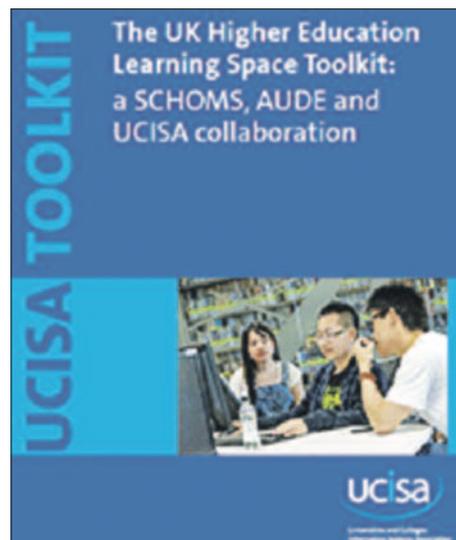
to work around some predetermined constraints."

On the subject of Effective Learning by Design, Simon said the toolkit was underpinned by the triangular relationship between technology, estates and academic. "The core concept of the book and our experience is that everyone has to contribute," he said. The most important conversation is how our academics are enabled to teach our students.

There were recognised standards around many of the factors that contributed to design – such as acoustics, heating, comfort levels, access to technology – but each stakeholder had a different perspective of these and each had to be understood.

Simon added that the evaluation of space - how it improved outcomes and student attainment – were the 'golden rules' for continuing to attract investment. "That's where the triangle comes in," he said. "We need to be working with these groups of people really closely so our input is making a difference."

Speaking on Change Management and Transition, AUDE Executive Officer Jane White, said there should be engagement before any design came into play. "It's identifying the people you should be talking to and appreciating everybody's different perspectives, not seeing barriers or problems."

Describing the toolkit as an incredible collaborative project, she said AUDE and the HEDQF quality design forum were currently looking at supporting it with more work and funding. Possibilities included an interactive online interface and "the value of collecting case studies and real-life data about people and the lessons we can learn from what has or hasn't worked."

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