ITEC 2013
Interactive Technology in Education Conference

Wednesday 10 - Thursday 11 July 2013
Utzon Room, Sydney Opera House
### Day 1
**Wednesday 10 July 2013**

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KEYNOTE 1

Title
The National Broadband Network: Enabling Online Education

Presenter
Dr Kate Cornick
NBN Co

Abstract
The National Broadband Network is the largest infrastructure project currently underway in Australia, delivering high-speed broadband to homes, schools and businesses across the country. NBN Co is the company that is responsible for the construction of the network that comprises fibre, fixed wireless and satellite services. The benefits of the NBN include faster, more reliable and ubiquitous broadband services and some of the largest future gains offered by the NBN include the transformation of education by enabling better access to services and improved learning outcomes for students no matter where they live. However, transformation of this sector will require changes to the entire educational ecosystem, as more schools learn to embrace online learning and demand for educational content increases.

In this talk, NBN Co will give an overview of the rollout of the NBN, and discuss how the network is transforming education today. The talk will also explore the role of educational organisations and institutions, including galleries, libraries and museums, in the NBN environment, and the impact the NBN is likely to have on their business models over the next decade and beyond.

Biography
Kate Cornick is the General Manager, Health and Education at NBN Co, the company rolling out the National Broadband Network. In this role Kate is working with the health and education sectors to drive adoption of broadband applications and services that will result in improved services to consumers.

From 2009-2012, Kate was the inaugural Executive Director of the Institute for a Broadband-Enabled Society (IBES) - an interdisciplinary research institute established at the University of Melbourne focused on broadband applications, including in health and education. During this time, Kate was also the General Manager of the Centre for Energy-Efficient Telecommunications at IBES, a joint venture between the University of Melbourne, Victorian State Government and Alcatel-Lucent. In July 2011 she was awarded the prestigious Australian Communications Industry Young Achiever Award in recognition of her work at IBES and CEET. Previously, Kate was the Senior Telecommunications Adviser and Deputy Chief of Staff to Senator Stephen Conroy, the Minister for Broadcast, Communications and the Digital Economy. Her roles included advising on the National Broadband Network policy, consumer issues and regional telecommunications.

Kate Cornick undertook her PhD in optical telecommunications at the University of Melbourne and, as part of her studies, spent time at AT&T Research Laboratories, USA.

KEYNOTE 2

Title
Inside Immersive Education

Presenter
Dr Aaron Walsh
Immersive Education Initiative, USA

Abstract
This session will give attendees an insider’s look at Immersive Education and the global Initiative that is responsible for defining and developing open standards, best practices, courseware and curricula, and communities of support for a wide range of virtual worlds, learning games, simulations and virtual reality applications designed specifically for teaching and training.

Dr. Walsh is the founding Director of the Immersive Education Initiative, a non-profit international collaboration of universities, colleges, research institutes, consortia and companies. Thousands of faculty, researchers, staff and administrators are members of the Initiative, who collectively serve millions of students around the world. International Chapters of the Immersive Education Initiative are now operating in Europe, Asia, Brazil, Argentina and Uruguay. The Australian Chapter of Immersive Education is under formation, which Walsh will provide an overview of in this session. During this session Walsh will give attendees an overview of several Immersive Education (IED) projects, activities and collaborations, including:

- The Australian Chapter of Immersive Education (IED Australia)
- IED Smithsonian and South Park Elementary School “Corner Cave”
- The Smithsonian Latino Virtual Museum (LVM)
- IED Library and Museums Technology Working Group (LAM.TWG)
- IED Internet 2 Collaboration
- Harvard University virtual worlds and augmented reality learning environments

Biography
Aaron E. Walsh is Director of the Immersive Education Initiative. Thousands of faculty, researchers, staff and administrators are members of the Immersive Education Initiative, who together service millions of students worldwide. The world’s leading experts in immersive teaching, training and learning convene annually at global and regional Summits instituted by Walsh. In the 1990s Walsh coined the term Immersive Education. In 2006 he received the Teaching with New Media (TWIN) award receiving highest honours in the competition for pioneering the use of Immersive Education at Boston College. He later coined the term “Immersive Illness” to describe issues such as addiction, alienation, and mental schisms in the age of Immersive Education. In 2007 Walsh was named one of the forty most innovative people in the Information Technology (IT) industry by Computerworld, the premier source of news and analysis for the IT industry. He received the prestigious national award in recognition for his pioneering work on the Media Grid and Immersive Education, which are recognized as “...innovative, promising technologies which hold the potential to significantly affect society in the near future.” In 2009 Walsh received the Campus Technology Innovator’s award for his contributions to the field of Immersive Education.

Walsh is also an international best-selling technology author, and has been featured in a number of leading technology and mainstream publications, including Newsweek and Newsweek International, for his work in international technology standards and Immersive Education. He teaches at Boston College, conducts related workshops and lectures at industry conferences, holds United States patents for modern graphical user interfaces for local and Internet information reference and retrieval, and has patents pending for network caching techniques and distributed computer processing.
Dr Anita Kocsis' work in the neuroaffective design research group at the faculty focuses on visitors' feelings in new technology exhibitions. A range of optical and digital technologies including augmented omni-stereoscopic, panoramic, 3D computer graphic models and characters, and ambisonic acoustic data are deployed in these systems to promote agency, presence and co-presence in a triadic relationship of user-system-spectator. The visitor, an active agent in the construction and determination of meaning who participates in these spaces does so at various levels of cognition and agency. This discussion employs design led innovation to evaluate and visualise visitor's experience in the space. What forms of visitor participation exist, what are the experiences and how does this knowledge impact content creation and programs within these new technologized spaces?

Visualization systems used in new technology exhibitions are made up of unique display environments, production systems and computer graphics techniques that leverage technological advances in cinema, games, mobile and networked media. Investment in these new modes of immersive interactive experience in new technology exhibitions provide galleries, museums and other public institutions new ways to present virtual heritage, historic, scientific and artistic content. These exhibitions are responsive environments and can be a combination of mixed reality and multi-modal interfaces that may present kinaesthetic and interactive participation. Exhibitions can be configured for panoramic enclosures at real world scale.

A range of optical and digital technologies including augmented omni-stereoscopic, panoramic, 3D computer graphic models and characters, and ambisonic acoustic data are deployed in these systems to promote agency, presence and co-presence in a triadic relationship of user-system-spectator. The visitor, an active agent in the construction and determination of meaning who participates in these spaces does so at various levels of cognition and agency. This discussion employs design led innovation to evaluate and visualise visitor's experience in the space. What forms of visitor participation exist, what are the experiences and how does this knowledge impact content creation and programs within these new technologized spaces?

Graham Smith has been inventing and exploring new forms of telepresence, robotic, virtual reality and media technologies since the early 1980's as both a university researcher, entrepreneur and artist. From 1992 to 1996 he directed the VRAAP program (Virtual Reality Artist Access Program) at the McLuhan Program in Culture and Technology at the University of Toronto which explored the effects virtual technologies may have on society. In 1987 Smith started his 1st company, HorizonScan Inc. and worked with Virtual Reality pioneer Jaron Lanier to incorporate his panoramic imaging inventions into a VR computer graphics environments and the US.

In 2007 Smith started his 3rd company Webchair B.V. (www.webchair.com) which has deployed 250 similar telepresence display units called Webchairs that link sick children to their learning environments in the Netherlands, Belgium, France, and Germany. His most recent research projects are the “Emotion Chair” project with Ryerson University (www.asid.ryerson.ca) which is a multi-modal interface to allow deaf people the ability to experience music by projecting sound inputs onto various body regions, and TARi (Telepresence Autism Research Initiative) that is studying the positive impact telepresence technology can have on people with Autism with Technical University Eindhoven in the Netherlands.
SESSION 1
12pm, Wednesday 10 July

Title
Teaching online at The Museum of Modern Art

Presenters
Deborah Seid Howes
The Museum of Modern Art, New York, USA

Abstract
This ‘live from New York’ presentation will discuss the two primary ways MoMA reaches life-long learners and teachers all around the world using interactive online platforms. The first of these methods is Google Hangouts, part of the Google Plus suite of tools that are free for everyone with a Google Plus account. Although intended primarily as synchronous experiences, Google Hangouts can be recorded and saved for future consultation and this feature has proven to be very successful at spreading awareness of MoMA’s other educational offerings online. MoMA has found Google Hangouts to be especially good for reaching audiences that cannot physically come to the museum, yet want to have that social experience of visiting the galleries together. Collaborating with the Virtual Senior Centre organized by SelfHelp Community Services in Queens, MoMA is reaching groups of home-bound seniors who are taught how to log in to a Google Hangout from their home and connect with other seniors to discuss topics of interest. On a regular basis MoMA’s educators log into this network and share images and support discussions about art. The seniors can see each other when they talk and they can even share desktops to show other images from their computers. These Virtual senior centre hangouts are private – open only to the participants and, like a gallery lecture, require that everyone be present at the same time.

The second method is MoMA’s online courses program. In designing our online courses we wanted to attract the widest possible audience, including students who live in remote locations and whose unpredictable schedules would not support appearing at a set time of the week for an educational experience. MoMA’s seven online courses, designed over the last 3 years, can be taken in two asynchronous ways: Instructor-led and Self-guided, and last anywhere from 5 to 10 weeks. These courses are distinguished by the quality and variety of educational materials they contain: every week of each course features ‘behind the scenes’ videos of interviews with key MoMA staff, walk though lectures in galleries, hands-on activities, as well as glossaries, slide shows and discussion activities. Over the past three years online courses have attracted 2,500 enrolments from 61 countries all over the world. Museums will continue to play an increasingly active role in online learning: online platforms provide a great environment for collaboration among different entities – universities, schools, research institutes, as well as artists and other professionals. It is also a great way to give their own thoughts on the concepts and questions explored, and see how their opinions compare with how other students have responded.

MoMA is a pioneer in using RFID technology to create and deliver innovative Schools Learning programs which are enjoyed by approximately 75,000 students each year. Developed with EDM Studio in 2010, the RFID trail allows the Schools Learning team to write and upload thought-provoking RFID activities for students, which directly align with the National Curriculum. MoMA’s programs specifically link to Civics and Citizenship and History subjects for both primary and secondary school groups. How can this interactive experience be extended into the classroom? After an onsite RFID trail has been completed, teachers can elect to be sent the ‘Democracy Download’. Once back at school, this resource provides teachers an opportunity to consolidate and delve deeper into the activities undertaken by their students at MoMA. What are the possibilities of this resource for the future? This paper will share insights into how a successful learning program using RFID technology has developed and evolved over time, and envision what opportunities and challenges it will present in the future.

Biography
Deborah Seid Howes is the Director of Digital Learning at the Museum of Modern Art in New York, where she oversees the development and delivery of online courses and other educational initiatives. In her 30-year museum career she has planned, created and directed ground-breaking educational programs, online exhibitions and resources, print and electronic publications, websites, and study centres for art museums including The Art Institute of Chicago and The Metropolitan Museum of Art. Exceptionally conversant with pedagogical practice and the requirements of new technologies, Howes is an effective facilitator of broad and creative thinking about the potential of digital tools to achieve educational objectives. A well-regarded public speaker for issues involving education, technology and museums, she also serves as an adjunct professor for the graduate program in Museum Studies at Johns Hopkins University and on the program committee of Museums and the Web Asia 2013 conference.

SESSION 2
2pm, Wednesday 10 July

Title
Interactive learning at MoAD

Abstract
What do the London Underground and the Museum of Australian Democracy (MoAD) have in common? Both use RFID technology (Radio Frequency Identification Devices). RFID is providing museum educators at the Museum of Australian Democracy at Old Parliament House with exciting opportunities to engage and interact with students. The Oyster card allows people to be taken on a journey throughout London’s underground train network, which is woven into the fabric of one of the world’s most vibrant and historical cities. Schools Learning programs at MoAD use an award-winning RFID trail developed with EDM Studio, which takes students on an engaging interactive journey through exhibitions, housed within the iconic heritage building of Old Parliament House. Students use an RFID key to unlock hidden activities, working as a team to discover and interrogate objects which tell the story of Australia’s unique and evolving democracy. Students are able to give their own thoughts on the concepts and questions explored, and see how their opinions compare with how other students have responded.

MoAD is a pioneer in using RFID technology to create and deliver innovative Schools Learning programs which are enjoyed by approximately 75,000 students each year. Developed with EDM Studio in 2010, the RFID trail allows the Schools Learning team to write and upload thought-provoking RFID activities for students, which directly align with the National Curriculum. MoAD’s programs specifically link to Civics and Citizenship and History subjects for both primary and secondary school groups. How can this interactive experience be extended into the classroom? After an onsite RFID trail has been completed, teachers can elect to be sent the ‘Democracy Download’. Once back at school, this resource provides teachers an opportunity to consolidate and delve deeper into the activities undertaken by their students at MoAD. What are the possibilities of this resource for the future? This paper will share insights into how a successful learning program using RFID technology has developed and evolved over time, and envision what opportunities and challenges it will present in the future.

Biography
Josephine Walsh is a Schools Learning Officer at the Museum of Australian Democracy at Old Parliament House, having worked at the Museum since 2011. She recently completed a Graduate Certificate in Museums and Collections from the ANU, and majored in Heritage and Cultural Studies in her undergraduate Bachelor of Arts at the University of Sydney. Josephine has worked with students previously as an academic tutor, and also spent time as a volunteer at the Justice and Police Museum in Sydney.
**SESSION 3**

2.30pm, Wednesday 10 July

**Title**

Engaging Digital Learners

**Presenter**

Sue Beveridge

Electroboard Solutions

**Abstract**

This presentation 'Engaging Digital Learners' provides case studies and real classroom examples of how the integration of technologies enables collaborative learning. Based on latest international and local research the presentation will demonstrate how Australian schools are implementing innovative practices in the use of technologies such as Apple iPads, SMART Technologies and video conferencing. The presentation itself will utilise Prezi with embedded videos of practice to illustrate to conference participants how integrating these technologies engages learners.

**Biography**

Sue Beveridge has been an educator for more than 32 years with a strong focus on innovation and learning. She has served in education as a Head Teacher of English, Senior Project Officer English K-12 and Literacy Curriculum Adviser, Chief Education Officer and Assistant Director of the NSW Department of Education’s Centre for Learning Innovation, and Education Outcomes Business Change Manager for the Connected Classrooms Program. As a Senior Officer in the Nation’s largest department of education with an enrolment of over 12 million students, Sue delivered change strategies for key educational transformations, including the NSW Literacy Strategy (placing literacy as a key focus for all teachers), the new Higher School Certificate (introducing standards based assessment), the Priority Action Schools Program (focussing on Quality teaching in low SES schools), Tale (the Department’s Teaching and Learning Portal with more than 22,000 digital resources) and the Connected Classrooms Program (connecting 2250 NSW public schools via interactive whiteboards, video conferencing, data collaboration and social networking tools).

Sue is a Member of the Australian College of Educators (MACE) and the Australian Council of Educational Leaders (ACEL). She has led educational research and written widely, including her current blog: http://interactivewhiteboardnetau.wordpress.com/

Sue has presented at conferences both internationally and nationally including the British Education Research Association (BERA), the CoSN International Conference, Washington 2010, the International Middle Years Conference 2009, the IDEA 2012 Conference, Stronger SMART Conference 2012, ACEL Hosting and Harvesting Conference 2010. Currently she is the National Education Advocacy Manager for ELECTROBOARD Solutions, an Australian company creating collaborative learning environments and providing accredited Training for Apple, Polycom, SMART Technologies and IRIS Connect across the education sector.

**SESSION 4**

3pm, Wednesday 10 July

**Title**

Not just broadcasting: a pilot creative education program from ABC Splash

**Presenter**

Sara Cousins

Australian Broadcasting Corporation

**Abstract**

Students remember experiences - in particular, they remember learning experiences that transport them beyond school boundaries and connect them with both their peers and the adult world. The ABC has just piloted a new educational program that gave 100 Year 6 students the experience of connecting with each other and ABC journalists over a six week period across states to create their own local news stories. NBN-connected schools in NSW, SA and Tasmania were linked with a live studio audience in Melbourne in a total of four collaborative video conference sessions. The ‘Making the News’ pilot showcased a creative program model that linked to the Australian Curriculum and utilised the capabilities of high speed broadband, a multi-camera studio shoot and sophisticated video conferencing technology.

The ABC pilot program imagines a future of ubiquitous broadband and real time communication technologies allowing new forms of audience interaction. It aimed to achieve two outcomes: (1) seamless use of high-end technology in an education context to deliver an exciting motivating creative program resulting in exemplary student work; and (2) development of a pedagogical delivery model that complemented existing teaching requirements and delivered resources that could be reused at any time by any student at home or at school. The findings from the pilot have informed the design and scaling up of the ongoing collaborative program over 2013 and 2014. The roll-out will seek to provide wide access while retaining the innovative aspects of the program. This paper explores these findings, the impact of the program and the implications for content providers. The pilot is part of ABC Splash, the ABC’s new education initiative in partnership with Education Services Australia and funded by the Department of Broadband, Communications and the Digital Economy and the Department of Education, Employment and Workplace Relations. abc.net.au/splash.

**Biography**

Sara Cousins is currently Senior Producer at ABC Innovation. She is managing a creative digital education program, ABC Splash Live, demonstrating the capabilities of fast broadband and new communication technologies. ABC Splash is an initiative of the Department of Broadband, Communications and the Digital Economy, and the Department of Employment and Workplace Relations. ABC Splash, in partnership with Education Services Australia, provides access to a wealth of ABC contemporary and archival content linked to the Australian Curriculum, as well as a suite of engaging interactive educational resources.

Previously, Sara was the producer of a internationally multi award winning education project – Generator, a virtual studio space - and the micro-vlogging site and app, 15 Second Place for ACMI (Australian Centre for the Moving Image). Over the past seven years, she has worked in the university sector and managed major client campaigns.
Dr Kimberley Pressick-Kilborn is a lecturer in teacher education programs at the University of Technology, Sydney. Her research focuses on how motivation for, and more specifically interest in, learning develops in a wide range of contexts: in STEM subjects, while learning out-of-school, and in alternative schools for marginalised youth. Kimberley is particularly interested in research conducted with practitioners in innovative learning environments, including those that incorporate new learning technologies. As a primary teacher, she teaches across two programs in the Faculty of Arts and Social Sciences of UTS: Education’s Centre for Research in Learning & Change. His main research interests are in the area of technology-enhanced learning in K-12 and teacher education contexts. Homepage: http://bit.ly/mkhomepage

Biographies
Dr Rachel Perry has been working in Education and the Arts for almost 20 years with experience in schooling, government and tertiary environments. Rachel has a particular passion for teacher professional development in the arts especially as it can be mediated through technology and what this means for those located in disadvantaged, rural and remote communities. Recent research has focused on teacher development in drama as well as facilitated action learning as a process to support schools and organisations.

Rachel is currently working in the Australian Centre for Child and Youth Culture and Wellbeing at the University of Technology, Sydney. She is exploring possibilities of the connected classroom (video-conferencing) as a means of connecting and supporting student learning and what this means for the teaching and learning process in schools and universities.

Assoc. Professor Matthew Kearney teaches across two programs in the Faculty of Arts and Social Sciences at UTS, coordinating ICT in Education subjects in the BEd (Prim) and BTeach (Sec) programs. He is a member of UTS: Education’s Centre for Research in Learning & Change. His main research interests are in the area of technology-enhanced learning in K-12 and teacher education contexts. Homepage: http://bit.ly/mkhomepage

Dr Kimberley Pressick-Kilborn is a lecturer in teacher education programs at the University of Technology, Sydney. Her research focuses on how motivation for, and more specifically interest in, learning develops in a wide range of contexts: in STEM subjects, while learning out-of-school, and in alternative schools for marginalised youth. Kimberley is particularly interested in research conducted with practitioners in innovative learning environments, including those that incorporate new learning technologies. As a primary teacher, she has previously taught in schools from preschool to Grade 8.

Biography
Robert Bunzli is the National Museum of Australia’s project manager for the Mobile Robot Telepresence Education Program, a joint project with CSIRO and the Department of Broadband, Communication and the Digital Economy. The Mobile Telepresence project combines mobile robot technology with a 360 degree camera to enable remote visitors to independently control their ‘view’ of a museum gallery space from their computer or smart board via the National Broadband Network or similar high bandwidth connection. A museum educator will operate the robot and interact with their remote audience through a variety of in-built interactive features. In addition to the interactive tour, the remote audience will also have access to additional information about the specific areas of the gallery they visit, including museum objects and other historical evidence/collections material through an augmented reality feature. This project is aligned with the National Digital Economy Strategy (NDES) goals especially: expanded online education, and greater digital engagement in regional Australia. It will also seek to address the ‘digital divide’ and provide social inclusion for remote students, the disabled, and regional and rural communities. The Mobile Telepresence project is at the beginning stages of trialling with schools. As with any project where the technology is new and sophisticated, one challenge will be to ensure that the development of the technology will aid rather than hinder a compelling learning experience for the audience. In this presentation we will explore in more detail how the project is proceeding, identify the opportunities and potential pitfalls, and hear what teachers and students think about this new medium.

Robert has a background in the digital delivery of interactive education using multipoint video conferences and web streaming through his previous role as Production Manager for Digital Outreach at Questacon.
# Program.

**Day 2**  
Thursday 11 July 2013

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| 11am   | Session 1 | History in Place                                                     | Jo Clyne  
History Teachers Association of Victoria  
Eleanor Whitworth  
Culture Victoria  
Tanya Wolfenberg  
Heritage Council of Victoria |
| 11.30am | Session 2 | Mr Bassett's Schoolroom: NBN-enabled outreach from the National Trust, Willunga | Jill MacKenzie  
National Trust of South Australia, Willunga  
Mandi Dimitriadis  
SA Department of Education and Child Development |
| 12pm   | Session 3 | Transforming practice at the coalface: Virtual collaborations in NSW schools | Patrick Spiers  
Field of Mars Environmental Education Centre |
| 12.30pm | Session 4 | Virtual Excursions Australia                                         | Karen Player  
Australian Museum |
| 1pm    | Lunch (Studio Cahn)                                                 |                                                                       |
| 2pm    | Showcase 1 | Sydney Living Museums: A Convict Story                             | John Lamzies  
Sydney Living Museums, Historic Houses Trust of NSW |
|        | Showcase 2 | Virtual Engagement through Activity-Based Science and Technology Workshops: A Questacon Perspective | Natalie Sullivan  
Questacon - The National Science and Technology Centre |
|        | Showcase 3 | Interactive Education in Real Time                                  | Chris Richter  
Ricoshae Pty Ltd  
Bridget Murphy  
Museum of Human Disease |
|        | Showcase 4 | Health and disease for high schools via video conference            | David Burton  
The Song Room  
Jacqui Barton  
HarperCollins Publishers  
Sue Beveridge  
Electroboard Australia |
|        | Showcase 5 | ARTS:LIVE Accessible Arts Education Online                         | Tara Smith  
Sydney Opera House  
Dr. Anthony Collins  
& Prof Farzad Safaei  
Smart Services CRC |
|        | Showcase 6 | The Nanberry Project                                                |                                                                       |
|        | Showcase 7 | Sydney Opera House: Applying the performing arts to live, real-time digital experiences |                                                                       |
| 3.30pm | Session 5 | Connected Surfaces and Enabling large-scale immersive education and collaboration with See |                                                                       |
| 4pm    | Afternoon Tea (Utzon Room)                                          |                                                                       |
| 4.30pm | Session 6 | Virtual Composer in Residence and the Abbotsleigh Experience         | Naomi Manning & David Knott  
Abbotsleigh |
| 5pm    | Session 7 | Science and Design Futures: New remote learning labs from the Powerhouse Museum | Janson Hews & Peter Mahoney  
Powerhouse Museum |
| 5.30pm | Session 8 | MDBA Basin Champions program                                         | Clair Bannerman  
Murray-Darling Basin Authority |
| 6pm    | Closing Comments (15 mins)                                          |                                                                       |
SESSION 1

Title
History in Place

Presenter
Jo Clyne, History Teachers Association of Victoria
Eleanor Whitworth, Culture Victoria
Tanya Wolkenberg, Heritage Council of Victoria

Abstract
History in Place is a pilot program developed by Culture Victoria, HTAV and the Heritage Council of Victoria. In 2013 six primary schools in regional and metropolitan Melbourne were selected to partner with their local community museum for the purpose of using tablet technology to develop digital stories about objects stored in the collections. The participating museums; Co.As.It/Museo Italiano (Carlton), National Trust Property Barwon Park (Whinchelsea), The Golden Dragon Museum (Bendigo), The Burke Museum (Beechworth), Rio Vista (Mildura) and the Yarra Ranges Museum (Lilydale) were selected due to the relevance of their collection to the grade 5 & 6 History curriculum. Students had a day to research, film and begin editing their stories. Participants in this session will learn about the pilot, how they can develop partnerships with local museums and tips for running the program in their own school.

Biographies
Jo Clyne is Education and Consultancy Services Co-ordinator at the History Teachers Association of Victoria. Jo has been the Victorian coordinator of the National History Challenge since 2008.
Eleanor Whitworth is the Content Curator for the Culture Victoria website. Eleanor works closely with metro-regional cultural organisations to increase access to cultural heritage resources and collections.
Tanya Wolkenberg has managed new media, communications and education projects for Heritage Victoria and the Heritage Council of Victoria since 2006 including the delivery of a number of educational ICT projects, including Vic-Heritage, an app for iPhone and iPad.

SESSION 2

Title
Mr Bassett’s Schoolroom: NBN-enabled outreach from the National Trust, Willunga

Presenter
Jill MacKenzie, National Trust of South Australia, Willunga Branch
Mandi Dimitriadis, SA Department of Education and Child Development

Abstract
The Bassett Boy’s Schoolroom was built in 1862 by Mr James Bassett as a private school for boys in the town of Willunga, south of Adelaide. It is now managed by the National Trust as a small museum. For several years it has hosted school and adult groups, where visitors are invited to imagine what school was like 150 years ago and to share their own reminiscences about school days. The town of Willunga was one of the first five mainland sites connected to the National Broadband Network. In 2012, the Bassett Boy’s Schoolroom became the first museum in the country connected to the NBN.

The new NBN-enabled video-based outreach program Mr Bassett’s Schoolroom brings students into the Bassett Schoolroom virtually for a 45-minute interactive session. In this way we can greatly increase the potential number of classes and students who can visit the Bassett Schoolhouse and experience what school was like for previous generations. The program includes teacher resources and pre- and post- materials to support the live session. The program has been developed in consultation with the Manager of Pedagogy and History in the South Australian Department of Education and Child Development and is highly innovative, as well as being closely integrated with the new Australian Curriculum (History) and the Cross Curriculum area of sustainability.

This presentation will show how a small, volunteer run museum is making effective use of NBN connectivity to extend its reach and innovate with its programs.

Biographies
Mandi Dimitriadis is currently the Manager of Pedagogy and History for the Department for Education and Child Development. She is passionate about exploring effective teaching and learning in history through the implementation of the Australian Curriculum and innovative use of digital technologies. Mandi previously worked as the Education Manager at the South Australian Maritime Museum and has teaching experience in a range of settings in South Australia.

Jill MacKenzie is a consultant who works primarily with small community-based and volunteer-run museums in South Australia to support their online information and technology management needs. She has previously worked in various museums in South Australia and Western Canada in curatorial, public and online programming roles.
SESSION 3
12pm, Thursday 11 July

Title
Transforming practice at the coalface: Virtual collaborations in NSW schools

Presenter
Patrick Spiers
Field of Mars Environmental Education Centre

Abstract
The last two years has seen a coming of age of the NSW Connected Classroom program. Now sophisticated, multi-channel virtual collaboration programs that are driven by students, for students, are becoming commonplace in NSW state schools. This session will explain the technical and pedagogical details that go into the planning and delivery of some award-winning collaborations to discover:
• What does virtual collaboration look like in a real-world school?
• How do students balance the use of asynchronous and synchronous collaboration channels?
• How and where does virtual collaboration fit in the new curriculums?
• How might a classroom teacher program a unit of work organised around a meaningful student-centred collaboration?
• What does collaboration mean to a ten year old child anyway?

About Field of Mars Environmental Education Centre
Field of Mars EEC in Sydney is ideally positioned within the NSW State school system, in constant partnership with teachers at curriculum planning and program delivery level. Amongst other things, the virtual tools and support from the NSW Connected Classroom program has been a perfect vehicle for Field of Mars to evolve as a centre of digital education. Specifically, in the last 5 years Field of Mars EEC has become a:
• Video Conferencing content provider
• Video Conferencing collaboration support centre and coaching service
• Video Conferencing professional development centre for teachers
• Blended and mobile learning centre

For more info go to: www.fieldofmarseec.nsw.edu.au

Biography
Patrick Spiers is a classroom, fieldwork, experiential and digital teacher of 13 years experience. He began his career in education in regional and rural Australia as a high school Science teacher, before moving into the field of Education for Sustainability and virtual collaboration. He is the teacher at Field of Mars Environmental Education Centre in Sydney which is operated by the NSW Department of Education and Communities to help students and teachers with Fieldwork, Environmental Education and Education for Sustainability.

Patrick is the recipient of the 2013 Premier’s Copyright agency creativity and innovation scholarship which supported an international study of global best practice in virtual collaboration and digital outreach methods in everyday curriculum contexts.

SESSION 4
12.30pm, Thursday 11 July

Title
Virtual Excursions Australia

Presenter
Karen Player
Australian Museum

Abstract
Have you been having trouble finding out who is delivering video conferencing sessions or where to book? Virtual Excursions Australia (VEA) is a collaborative network of video conferencing providers from across the country including: museums, libraries, botanic gardens, aquariums, universities, education companies, arts organisations, and science groups. VEA has developed a website and a social media presence that acts as a portal for teachers wanting information about video conferencing events, content providers and where to book. Virtual Excursions Australia also coordinates video conferencing events throughout the year, so find out about what events are coming up in 2013.

Biography
Karen Player is the Museum Outreach Manager at the Australian Museum. Karen has a background in environmental science and education and is committed to outreach programs throughout New South Wales and beyond. Karen has worked at the Australian Museum for the last 14 years in education and interpretive roles. She became involved in the Australian Museum’s outreach programs as coordinator of Science communication and then moved across into Museum in a Box. Last year Museum in a Box delivered 620 boxes of Museum specimens and educational resources to over 250 schools across NSW reaching over 75000 students. For the last 4 years Karen has been coordinating Video Conferencing programs across the Australian Museum. This has provided a great opportunity to have school with the physical object in class link up with a Museum educator. Last year they presented video conferencing events to 8500 students from 200 schools across the state.

Karen is the chair of Virtual Excursions Australia, which is a professional network of educational content providers and has over 30 participating organisation.
SHOWCASE 1

Title
Sydney Living Museums: ‘A Convict Story’

Presenters
John Lamzies, Sydney Living Museums
Historic Houses Trust of NSW

Abstract
Meet Ivan Gotney, Hyde Park Barracks’ convict and storyteller extraordinaire, as you learn about the Historic Houses Trust’s exciting, theatrical virtual excursion ‘A Convict Story’. The HHT developed ‘A Convict Story’ in 2010 to bring the tales of convict life at the 1819 Hyde Park Barracks to students who are not always able to come to the World Heritage listed site in person. Using historical source material and encouraging active participation from the students the program shares insights into the everyday lives of Barracks convicts and establishes the importance of convict labour to the development of the new colony in NSW. ‘A Convict Story’ is an immersive, highly engaging virtual excursion that utilizes video-conferencing and green screen technology, still images, moving footage and music to bring the Hyde Park Barracks Museum and convict life in the early colony into the classroom.

Biography
Ivan Gotney was born in the United Kingdom and worked on the River Thames as a boatman until, in 1820, an unfortunate incident resulted in his transportation to Australia for a term of 7 years. He was invited to take up residence at the Hyde Park Barracks and works for the government as a carpenter. He spends his spare time avoiding getting into trouble, encouraging fellow convicts to join him in a sing-along and engraving love tokens to send to his wife, Lily, and their seven children back home in old London Town.

SHOWCASE 2

Title
Virtual Engagement through Activity-Based Science and Technology Workshops: A Questacon Perspective

Presenters
Natalie Sullivan, Questacon
The National Science and Technology Centre

Abstract
For the last few years, Questacon - The National Science and Technology Centre, has been a leader in interactive, activity-based, virtual science and technology workshops and events. To date we have delivered a range of virtual excursions for schools across Australia, from high profile events involving many partners and large audiences, to more intimate workshops directly into one or two classrooms. Our subject matter has ranged from space science, water management, animal adaptations, music, mathematics, animation, and, innovation. In this showcase session we will introduce our approach to virtual engagement in the classroom, outline lessons we have learnt along the way, and reveal our vision for the future.

Biography
Natalie Sullivan is the Digital Outreach Coordinator at Questacon – The National Science & Technology Centre in Canberra. Nat has been engaging school students with science, technology and innovation since 2010. She has toured Australia and Vietnam with various Questacon outreach programs and continues to connect with both national and international audiences by coordinating Questcon’s video conference programs.

SHOWCASE 3

Title
Interactive Education in Real Time

Presenters
Chris Richter, Ricoshae Pty Ltd

Abstract
Often web based interactive education materials are static or involve complicated Flash based development or high end servers, complicated authentication and expensive software licencing just to allow multi user interaction. Chris Richter from Ricoshae Pty Ltd will demonstrate some real time applications built on HTML5 technologies that can be incorporated into everyday education. The activities include a 3D model sharing application, multi-user board game framework; photo overlay demonstration and a multi-user timeline application.

Biography
Chris Richter is a web based interactive software developer from Northern NSW. Chris has been involved in the Education Industry for over 10 years, primarily as a developer for online learning materials, plugins for platforms, online video and real time online interactive media. Chris is also the key developer for FileSender, an online HTML5 large file transfer application (up to 100GB per file in a browser) used by many European Universities.

www.ricoshae.com.au
SHOWCASE 4

Title
Health and disease for high schools via video conference

Presenters
Bridget Murphy, Museum of Human Disease

Abstract
The Museum of Human Disease will showcase their interactive video conference “Heart and respiratory disease”, designed for junior high school students studying body systems and disease. Our program provides students with a unique opportunity to observe the effects of disease on different organs of the body. This video conference runs successfully both in Australia and internationally. Before the video conference, students complete a computer tutorial to revise the structure and function of the circulatory, respiratory and digestive systems. During the video conference, students participate in a virtual dissection of a pluck (lungs, heart and liver) and compare the structure and function of healthy organs with museum specimens of lungs, heart and livers affected by a range of infectious and non-infectious diseases. During the conference, students use a worksheet to identify the causes, symptoms, body response, prevention and treatment for a selected infectious and a non-infectious disease. For the ITEC showcase, we aim to set up a camera, computer and a projector to demonstrate each aspect of our video conference program. We will spend one or two minutes demonstrating the features of the pre-work computer tutorial. For the remainder of the presentation, we will show how we use the dissection and museum specimens to illustrate the effect of disease on body systems. We will also demonstrate the sort of questions we would ask the students during our video conferences.

Biography
Bridget Murphy is an education officer at the Museum of Human Disease and coordinator of the museum’s video conference program. The Museum of Human Disease has been video conferencing to high school students since 2011, and has recently begun connecting to schools in the United States.

SHOWCASE 5

Title
ARTS: LIVE Accessible Arts Education Online

Presenters
David Burton, The Song Room

Abstract
With the incoming Australian curriculum in the arts, it is critical that schools without specialist teachers across the 5 art-forms have a range of easily accessible resources to draw upon. As a not-for-profit organisation providing arts education to schools across the country, The Song Room has invested considerable resources in partnership with Education Services Australia, Federal Education and a range of Arts organisations and educators, to develop a highly innovative, diverse and free online learning platform for Australian schools. The content being launched in June 2013 has over 400 teaching resources and is engaging, creative and clearly aligned to the new curriculum framework across all year levels and all 5 art-forms. This session will be an interactive introduction to how the content can be utilised in the classroom and an opportunity to contribute to the future directions of this resource for schools.

Biography
David Burton is online Program Manager at The Song Room, and manages development of The Song Room’s virtual classroom, Song Room Live, iPad app projects and resource development of teaching and learning resources across the five art forms. With over 15 years experience as a practicing musician, actor and playwright, David is also an experienced secondary drama teacher and product trainer.

SHOWCASE 6

Title
The Nanberry Project

Presenters
Jacqui Barton, HarperCollins Publishers
Sue Beveridge, Electroboard Australia

Abstract
The Nanberry Project is a unit of work that will meaningfully connect the author Jackie French and her book Nanberry with students and teachers around Australia within the context of their studies on English and History. This project will be delivered via a digital platform that supports interactivity and collaboration, using video conferencing and a range of software and web 2.0 tools.

Biography
Jacqui Barton heads up Education at HarperCollins Publishers. Her career commenced as a secondary teacher and she holds a master’s degree in education and Children’s publishing. Jacqui’s experience has been in Education, Publishing and most recently in Digital Publishing. She has had the opportunity to work with Scholastic, Pearson Education and now with HarperCollins Publishers. Jacqui works closely with educational committees and advisory groups within the community to come up with the most appropriate selection published material to meet the needs of their students.

SHOWCASE 7

Title
Sydney Opera House: Applying the performing arts to live, real-time digital experiences

Presenters
Tara Smith, Sydney Opera House

Abstract
In 2012 Sydney Opera House launched its Digital Education program, consisting of live, interactive ‘digital excursions’ for primary and secondary students and teachers. This session will demonstrate how the application of a live performing arts experience to the digital medium has pushed the boundaries of interactivity in video conferencing technology. To present a Digital Education program which is highly interactive, allows for spontaneous, student-led interaction, and shows students real places behind-the-scenes in Sydney Opera House, we have invested in fully roaming technology systems and equipment. Delivery of these programs involves all the elements of a multi-camera, multi-location film shoot, including live video and audio mixing, and radio frequency (RF) management. This showcase session will utilise the technology to give delegates a first-hand sense of how Sydney Opera House has applied performing arts pedagogy to these digital experiences.

Biography
Tara Smith is the Producer for Digital Education at Sydney Opera House, responsible for the development and delivery of the House Ed Digital Education Program, and the Opera House’s NBN-Enabled Education and Skills Services projects funded by Department of Education, Employment and Workplace Relations and Department of Broadband, Communications and the Digital Economy. She has a background in Arts Education, having previously worked at the Bondi Pavilion Cultural Centre and Sydney Conservatorium of Music, delivering interactive and engaging arts education programs. Tara spent four years in the UK, as the Education Manager for London Sinfonia Orchestra, where she developed a number of digital education and outreach programs, utilizing technology to bring together classical music and the community.
**SESSION 5**

3.30pm, Thursday 11 July

**Title**

Connected Surfaces and Enabling large-scale immersive education and collaboration with iSee

**Presenter**

Dr Anthony Collins & Professor Farzad Safaei
Smart Services CRC

**Abstract**

This presentation will highlight two Australian research initiatives born of Smart Services CRC service innovation program, iSee and Connected Surfaces. iSee is an immersive video collaboration system allowing a large number of simultaneous users to interact and communicate effortlessly in a common virtual environment using spatially accurate audio and video. Participants have freedom to move within the environment, join other discussions or form a separate conversation group. The combination of rich visual and aural scenes creates a sense of immersion and provides a comfortable space for users to naturally interact. iSee has the capacity to address a range of factors currently impacting the Australian education landscape. It can help students and teachers overcome regional isolation by creating a virtual learning environment, eliminating the need for people to travel distances to participate in specialist education, training and professional development. It also supports a shift towards the use of digital learning content rather than paper-based resources.

The Connected Surfaces platform is turning fiction into reality – where simple hand gestures allow you to interact with walls or tables. Every surface is connected and large touch surfaces can become the classroom tables and walls of tomorrow. Forget the clipboard and pencil – excursions to the museum are brought to life as children record their journey through photos and video, sharing collaboratively to bring their learning experiences to life. The Connected Surfaces platform has been developed by Smart Services CRC and the Computer Human Adapted Interaction (CHAI) Research Group at the University of Sydney, with ongoing research focused on improving how people collaborate with digital information. The platform is unique in its ability to create a real-time network between smart devices anywhere in the world. It can facilitate both single- and multi-touch inputs through which users can manipulate documents, images, video, audio and web browsers in real-time using a series of hand and body gestures that are uniform across all hardware devices. The Connected Surfaces software was deployed to the Australian Museum in 2011 with a custom-built multi-touch hardware system called TableTop.

**Biographies**

**Anthony Collins** is Product Leader of Interactive Surfaces at Smart Services CRC. He has a background in surface computing research, also holding an appointment as Postdoctoral Research Fellow with the Computer Human Adapted Interaction (CHAI) research group at the University of Sydney. He has been working in the field of surface computing for the last 7 years. In his current position, he leads the product development and commercialisation of the Connect Surfaces platform technologies, while continuing to be active in Human-Computer Interaction research, particularly in the areas of pervasive computing and mobile devices.

**Farzad Safaei** graduated from the University of Western Australia with a degree of Bachelor of Engineering (Electronics) and obtained his PhD in Telecommunications Engineering from Monash University, Australia. Currently, he is the Professor of Telecommunications Engineering and Managing Director of ICT Research Institute at the University of Wollongong, Before joining the University of Wollongong, he was the Manager of Internetworking Architecture and Services Section in Telstra Research Laboratories. Farzad has been conducting and managing advanced research in the field of data communications and networks since 1990.

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**SESSION 6**

4.30pm, Thursday 11 July

**Title**

Virtual Composer in Residence and the Abbotsleigh Experience

**Presenter**

Naomi Manning & David Knott
Abbotsleigh

**Abstract**

Abbotsleigh have been using video conferencing for the past 4 years, in both the Senior and Junior school context. We have used it to connect to content providers, other classes, experts at home and abroad and also for conferences and PD. This session will look at a range of case studies including our Virtual Composer in Residence project which saw music teachers using it to provide students with a composer to mentor students. The use of these ongoing mentoring sessions with a composer throughout process of writing their compositions provided students with valuable formative feedback that allowed them to focus their ideas and improve their final products.

**Biographies**

**Naomi Manning** has worked in different educational contexts over the years, but is currently one of the IT Integrators at Abbotsleigh. This role has involved supporting staff with integrating the use of Information Technologies into the curriculum to enhance their learning experiences. The use of video conferencing is an area that she is particularly passionate about as it has seen the students here connect with people and experiences that would have otherwise been impossible. This has a huge impact on teaching and learning. Prior to Abbotsleigh, Naomi worked as a classroom teacher at both Normanhurst Boys High School and Wenona and as an IT Trainer for adults.

**David Knott** was a junior school teacher in South Africa from 1994 until 2004. After moving to Australia he worked as a classroom teacher (2004 – 2008) and since 2009 has been an IT Integrator at Abbotsleigh, mostly working in the Junior School. While taking a keen interest in helping teachers and students to use technology in their teaching and learning, arranging video conferences has been one of David's most challenging and exciting tasks. Apart from video conferences with Australian content providers, Abbotsleigh has had successful links to the USA, China and Antarctica.
SESSION 7  
5pm, Thursday 11 July

Title  
Science and Design Futures: New remote learning labs from the Powerhouse Museum

Presenter  
Janson Hews & Peter Mahony  
Powerhouse Museum

Abstract  
More and more learners are populating the 21st Century as digital natives. The education landscape and the learning technologies that influence this need to change accordingly in order to better respond to these learners’ needs within an increasingly digital culture. At the centre of this lies the effective use of learning technologies that focus on interactivity and the social co-construction of meaning rather than merely for information transmission.

The Powerhouse Museum has in response to the increased prevalence of interactive technology, been building in-house skills and adapting on-site education programs for delivery via Video Conferencing (VC) technologies. Since the NSW Government Connected Classroom rollout was completed, access to institutional education program content is now an audience expectation in terms of equity and access. These ‘virtual excursions’ present significant potential for providing highly interactive learning experiences for students, whether peer-to-peer, students working with industry practitioners such as scientists or designers in remote labs, or interacting with collection objects to enhance learning. This paper will highlight some of the exciting educational projects and research that the Powerhouse Museum is undertaking emphasising interaction and collective knowledge construction. In particular we will discuss the Museum’s NBN Mars Lab space science program in which secondary students work with young engineers (from the Australian Centre for Field Robotics, University of Sydney) and scientists (from the Australian Centre for Astrobotany, UNSW) to undertake real research and experiments. The program leverages the high speed connectivity of the NBN to extend access to the lab to any Australian school classroom. The NBN Mars Lab features learning resources and experiences including remote access to the Mars yard, a scientifically accurate 135 sq metre recreation of the Martian surface installed within the Powerhouse Museum and the ability to control the research rovers remotely. An exciting digital education project, it greatly extends the range and scope of the Museum’s Science, Technology, Engineering and Mathematics (STEM) offerings.

Biographies

Janson Hews, Manager Education Programs, Powerhouse Museum  
Janson has been working in the education sector for over 8 years with experience working in various formal and informal learning settings. He taught Technologies at secondary level, and then moved into Museum Education managing the schools programs at the Victoria and Albert Museum, London. He returned to Australia in 2009 to take up his current position as Manager of Education Programs at the Powerhouse Museum. Janson holds a Bachelor of Design (Industrial Design), a Bachelor of Teaching Secondary – Technology and Applied Studies and he is currently undertaking a Master of Arts (e-Learning) at UTS part-time.

Peter Mahony, Learning Technologies Manager, Powerhouse Museum  
Peter is the Manager of Learning Technologies and oversees Thinkspace – the creative digital media workshop program at the Powerhouse Museum in Sydney. Prior to joining the Museum, Peter worked in various roles in theatre, music, community arts and teaching. He recently completed a Masters in Teaching at UWS.

SESSION 8  
5pm, Thursday 11 July

Title  
MDBA Basin Champions program

Presenter  
Clair Bannerman  
Murray-Darling Basin Authority

Abstract  
The MDBA Basin Champions program was piloted in terms one and two, 2013, with a number of schools from across the Murray-Darling Basin taking part. This seminar will outline the Basin Champions program, discuss some of the findings from an early-stage evaluation of the pilot program and invite expression of interest in round two of the program. The Basin Champions program is a FREE digital/science investigation program for schools within the Murray-Darling Basin.

The Basin Champions program is an open-ended investigation activity for students across the Murray-Darling Basin. The goal of the program is to get students to learn about human impacts on the natural environment and the kinds of things we can do to improve the health of river systems. The Basin Champions program also aims to help students learn how their local aquatic ecosystem is part of something much larger – the Murray–Darling Basin – and to help them consider issues of connectivity and interdependence within the Murray–Darling Basin river system.

The Basin Champions program combines interactive videoconferencing activities with open-ended in-class investigations. Each Basin Champions school is partnered with an MDBA scientist to mentor students in both the scientific method and the theory underpinning their investigation. This seminar will address a number of different issues relevant to both content providers and classroom teachers, including (but not limited to):

- linking up across state boards (cooperating with different videoconferencing technologies and capabilities)
- using digital technologies to promote partnerships between government, scientists and schools
- making science real for students in the classroom

The Basin Champions program is linked to the Australian Science Curriculum and is also highly relevant to the draft Australian Geography Curriculum. In addition, it addresses many of the organising ideas from the ‘Aboriginal and Torres Strait Islander histories and cultures’ and ‘Sustainability’ Cross Curriculum priority areas.

Biography  
Clair Bannerman is an educator with the Murray-Darling Basin Authority (MDBA). The MDBA is an Australian Government agency responsible for water resource management within the Murray-Darling Basin.

In her work with the MDBA, Clair enjoys using new and innovative technology to link up science experts and school communities through real-life investigations. She enjoys working with students and teachers from both the country and the ‘big-smoke’ and loves seeing students get a buzz out of learning about the importance of water in their natural and built environments.