

2012 ASTEN Fellowship Report

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ASPAC 2012 Conference: Reinvention

Relevant Science, Unique Science and New Generation Science

I was awarded an ASTEN Fellowship to attend the Asia Pacific Network of Science and Technology Centres (ASPAC) Conference held at the [Science Centre Singapore](#) from 16-21 April 2012. This report outlines the professional development highlights of the conference that I gained, and shares some of the knowledge, experiences and discussions I was involved with during my trip.

Connections, professional partnerships and networks

One of the key professional development highlights during this conference was the opportunity that I had to connect, learn and network with professionals within an industry to which I'm still relatively new to. Science communication is my passion and I have been working and volunteering in this field for over ten years. Although I have been actively involved with the fields of science and technology in various ways throughout this time, my recent appointment as the Science Education Officer at the Powerhouse Museum is my first position within the Museum or Science Centre industry. My attendance at the ASPAC 2012 Conference provided me with an invaluable opportunity at this stage of my career to meet

and connect with Museum and Science Centre professionals from within Australia and throughout the region.

The conference brought together 273 delegates from over 100 Museums and Science Centres throughout the Asia Pacific region and beyond. It was the largest ASPAC gathering in the conference's twelve-year history. Delegates represented a wide range of positions within organisations: ranging from Directors and CEOs, management and development teams, front line delivery staff and everything in between. This provided an extraordinary and unique opportunity for me to meet, network, learn from, and share ideas with science museum colleagues from diverse regions and areas of expertise. This key professional development highlight features strongly throughout the following observations.

Investigate, compare and evaluate different approaches to science communication

The Conference focused on the key theme 'reinvention' with the subthemes including 'relevant science', 'unique science', and 'new generation science'. My role as the Science Education Officer at the Powerhouse Museum involves developing science programs and experiences for a wide array of education audiences including primary, secondary, tertiary, and adults. A large part of my role is focussed on the management and delivery of the Ultimo Science Festival (USF), an event held annually in collaboration with three other large institutions: the University of Technology, Sydney, Ultimo TAFE and the ABC.

Science Centres and Museums internationally are facing the challenge of not only retaining but further increasing their relevance amongst existing and new audiences through unique engagement with these diverse audiences. This for many in the Asia Pacific region, including the Powerhouse Museum, is a matter of 'reinvention' and rethinking our current practices in ways which more effectively utilises significant work that has already been achieved and the resources already at hand including the collection, which can be reconceptualised.

The Powerhouse Museum's current Strategic Plan focuses on several key objectives that align directly with the ASPAC 2012 Conference themes: *'To deliver programs which explore creativity, technology and the sciences in ways which stimulate learning and innovation'*, *'To strengthen the collection and make it more open for present and future generations'* and *'To enhance the Museum's reach, recognition and prestige'*. Helping to achieve these goals through my work with the public and in school programs is a key challenge in my role at the Museum.

Attending the Conference helped me actively investigate, share knowledge, compare, and evaluate different approaches and strategies employed by the Powerhouse Museum and other organisations wrestling with similar challenges. It provided a unique opportunity to gain insights into best practice methods from many different institutions first hand. The program was so extensive the list of these insights would be enormous. I've chosen a select few to highlight in relation to the conference themes.

Theme: Reinvention

[Dr Michael John Gorman, Science Gallery \(Dublin\)](#), was simply inspirational. Michael mused that museums started as a place to accumulate artefacts and objects. They have moved towards experience-based engagement... *"Is there a third shift, a new place that we might explore? Could we all be a funnel for ideas? A place for the passage of ideas between people?"*

The Science Gallery (Dublin) do not have a permanent collection so reinvention is a constant for them. Exhibitions change on a regular basis and are all accompanied with an enormous range of events for the public to engage with. They decide on topics and exhibitions through an evolving group of 50 inspirational leaders from the fields of science, technology, the arts, design professionals, and also entrepreneurs which are collectively known as the Leonardo Group. They meet twice a year to brainstorm and suggest big themes and concepts for projects. Following this a small cross-disciplinary curatorial team is created from this group and the Science Gallery staff. Once topics are decided they issue an open call for projects to be collaboratively developed and presented during the exhibition.

The exhibition is a mid point, not an end point. It's a way of bringing an idea into the public realm as a litmus test. Exhibits include ways that the visitor can interact with the exhibition. A few favourite examples being: [Kiss Culture](#) where you kiss an agar plate to discover the natural flora you carry on your lips and nose. Your plate, once incubated, will contribute to a growing wall of cultured kisses on display within the Gallery. Another example is the use of QR codes next to an exhibit about a water purification system. QR code leads to a donation site for the project to get developed and trialled in sub Saharan Africa.

[Previous Exhibitions](#): Human+: the future of our species, Surface Tension: The Future of Water, Love Lab: The Science of Desire, Pills: Which ones have you taken?

[Dr Dennis Bartels, Exploratorium](#), presented a look into the past and the future of the museum of science, art and human perception. The Exploratorium was created by Frank Oppenheimer who intended it to be a political institution. One particular quote Dennis showed struck a strong chord with me.

"[The Exploratorium's] ultimate goal was to get people so addicted to understanding that they would somehow become inoculated against the clever deception of some advertisers and politicians. He would persuade them to use those brains of theirs and get involved, to add to the collective wisdom – the only true way, he thought, to solve our pressing global problems." Quote from Murray Gell-Mann's forward in the book: *Something Incredibly Wonderful Happens: Frank Oppenheimer and the World he Made Up*.

Museums and Science Centres should empower visitors with an understanding and knowledge to be used in decision making in their own lives: *"I can understand it and I can do something about it"*. The Exploratorium aims to democratize science and decision-making.

"Science literacy is about enabling a massive bullshit detector. It's not about the recall of correct answers. It's about getting people to asking the right questions. And not be lied to...."

The Exploratorium is currently moving to a new location and they are using the power of their new location to lead a transformative institutional change.

They are developing innovative ways to provide visitors compelling scientific insights into the natural and built environment in which they inhabit. Wedged between the city and the natural environment they are using nature to show the science around us every day. Some of their projects include attaching buoys to the pier so you can see the physical direction of the tide at all times, showcasing bridges as the largest thermometers in the world by installing sight scopes with temperatures indicators in relation to the movement of the bridge, and GPS trackers on building in the city to show on a screen how far they are moving that day.

[Graham Durant, Questacon](#), balanced the needs of continuity and change. The importance of reinventing the everyday through gradual evolution. Recognising what works: hands on, simple phenomena delight, enthusiastic young presenters, good demonstrations that have an impact, the importance of family learning and what changes: the variable factors e.g. new communication media, the possibilities of linking to the other side of the world, variable audience demographics, visitors getting older, & increasing cost of delivery.

[Lim Tit Meng, Science Centre Singapore](#), discussed the importance of the human factor in science centre reinvention. He stressed that it was our staff that were able to differentiate Museums and Science Centres from each other. Reinvention comes from creative people. You have to constantly value and nurture the creative minds in your institution if you want them to be inventive! Tit Meng shared the experience of setting up a Science Show Unit and the Scientist for a Day gallery at the Science Centre Singapore. He believes that staged Science Shows are essential programs for Science Centres and Museums and they can provide the human interactions between staff and visitors. Through shows we can deal with subjects that are difficult to translate into an exhibit, and also bring the relevant science to our visitors. The Scientist for a Day gallery explores the theme of the scientific method with interactive exhibits taking the visitor through the 'steps' of the method. Visitors are then invited to apply what they've learnt by conducting some simple experiments within the facilitator led DIY section. We must invest in human talents as story-tellers, as role models, as agents of change, and as the energy for invention and reinvention.

Theme: Relevant Science

There were many opportunities throughout the ASPAC conference to connect with colleagues from other institutions doing similar programs. This provided an opportunity to discuss relevant challenges and opportunities presented by these types of programs and share knowledge, skills and experience.

The session on Science Festivals was of particular interest to me as I've been involved with the USF in Sydney since 2007. I've been managing the overall Festival delivery for the past four years so I was uniquely placed to engage with this session, learn from other festivals and develop networks for future collaboration where these insights can be applied in my management of the Festival to help ensure its relevance.

[Singapore Science Festival \(SSF\)](#) has been held annually since 2003. It runs for one and a half weeks and has built up the audience participation numbers in the range of 50,000 – 70,000. They run from a hub of the convention centre and hold many supporting programs at other venues around Singapore. It is targeted at school students and family groups. The staff numbers working on the SSF is enviable in size. There are, however, many similarities to the USF in scope of programs, ticketing variations, multiple partners, and aims. They are aiming to experiment with a mini Maker faire this year, something that the Powerhouse Museum was also seriously considering for next year. SSF Mission: A celebration of science for all through creative and enjoyable experiences. SSF Objective: Increase public awareness and interest in science through a series of unique and engaging festival programs.

The inaugural Singapore International Science Festival (SISF) is a public/private initiative that will be held in July 2013. It will feature a mix of local and international partners and

performers and will be targeted at Singapore locals as well as tourists. The Festival aims to be a self-sustainable event held biennially with science based exhibitions, shows, forums, seminars & activities over a fortnight period.

As a key member of the USF I have already discussed this opportunity with the Festival executive committee, and I'll be getting in touch with SISF to discuss opportunities to collaborate in the future. There was discussion about starting a Science Festival Alliance to facilitate this collaboration. The other festivals that featured at the conference will also be part of this alliance:

- [Thailand's National Science and Technology Fair](#) is a huge two week science festival held in August annually. It received over one million visitors in 2011. It is supported by the Royal family, the Ministry of Science and Technology (made up of 15 organisations), 5 other Ministries and 29 Education institutions.
- [The Jakarta Junior Science Fair](#)

Theme: New Generation Science

Throughout the six days of the ASPAC conference I engaged in many formal and informal discussions with delegates. It was an excellent opportunity to discuss programs and challenges that we had in common, and explore areas where we could share knowledge and exchange ideas with each other.

The saying "there are no new ideas" was strongly brought home to me as many of the ideas for programs and initiatives which I've been discussing with other Powerhouse staff came up as current or past initiatives which other institutions around the world have undertaken. Being able to talk to (and interrogate) people who've already tried similar programs gave me a valuable insight into potential challenges and opportunities that may be presented. With this knowledge I feel that I'll be able to build future programs taking all their advice and experience into consideration.

Some examples of projects I was able to share knowledge about with other delegates and gain new insights from, including:

- Art Meets Science. The union and collaboration between the Arts and Sciences was mentioned many times throughout the conference. There is a movement to transform STEM (Science, Technology, Engineering and Math) education and research into STEAM (STEM + Art). One example of an institution's attempt at this is the relatively new [Art Science Museum](#).
- Science Shows. The different approaches, methods and delivery of science shows is staggering. Watching shows from a variety of institutions was a delightful experience.
- Living Laboratories. Different versions of this idea were discussed throughout the conference. I will stay in touch with [Universcience](#) as they develop a physical space where visitors and students will be able to build prototypes and where the user experience will be analyzed. This will directly influence my recommendations and approach to our own Living Labs at the Powerhouse Museum in years to come.
- Reaching the unreached. I will remain in close contact with the [Otago Museum](#) who run an extensive and engaging range of science communication initiatives to reach the unreached. Some of my favourite examples of this include a cartoon magazine aimed at lower high school kids and science trading cards.

Overall Experience

The ASPAC 2012 Conference was an invaluable professional development and networking opportunity made possible through receiving the ASTEN Fellowship.

The experience and insights I gained during the conference have helped me broaden my approach and methods, especially in the development of our new Science and Technology exhibition spaces and programs.

I have returned armed with a range of fresh perspectives to share with my colleagues and ideas to implement within my current role as the Science Education Officer at the Powerhouse Museum. In addition to this, the experience has also directly informed my role as Festival Manager of the USF, putting me into contact with Science Festival managers throughout the region. This will help to realise our goals of expanding the Festivals horizons to ensure it evolves to be more inclusive, relevant, participatory and accessible to changing audiences.

I would like to sincerely thank the ASTEN Committee for awarding me the 2012 ASTEN Fellowship. I now have a much better understanding of the Museum and Science Centre sector. The connections, professional partnerships and networks I established at the Conference will not only benefit the Powerhouse Museum and myself personally; they will also contribute to greater future collaboration potential and the sharing of knowledge between cultural and scientific organisations in the Asia Pacific region in general.

The conference was a truly valuable experience and I look forward to implementing strategies and developing relationships that I made while attending ASPAC 2012.

If anyone wishes to discuss any of the insights I have highlighted in this report I encourage you to contact me on the email address below.

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Websites linked to and referenced throughout report

- ASTEN - Australasian Science and Technology Exhibitors Network: <http://www.astenetwork.net/>
- ASPAC Conference Website: <http://www.aspac2012.com/>
- Science Centre Singapore: <http://www.science.edu.sg>
- Powerhouse Museum: <http://www.powerhousemuseum.com/>
- Science Gallery, Dublin: <http://www.sciencegallery.com>
- Exploratorium: <http://www.exploratorium.edu/>
- Thailand's National Science and Technology Fair: <http://www.nst2011.com/highlight.html>
- The Jakarta Junior Science Fair: <http://juniorscience-fair.com>
- Art Science Museum: <http://www.marinabaysands.com/singapore-museum/>
- Universcience: <http://www.universcience.fr/en/welcome>
- Otago Museum: <http://www.otagomuseum.govt.nz/>