

Frontiers of Science (Part II)

Moderator:

Pelle Persson, Heureka—The Finnish Science Centre

Pelle Persson asked a panel of science centre CEOs to discuss some of the common challenges and potential solutions around bringing cutting-edge, contemporary science to the public. “The main challenge is that the interactive exhibition is the most common medium for science centres, but we need to have another range of programming instruments if we are to make sense of new science.”

Goéry Delacôte, @Bristol, United Kingdom

Presenting contemporary science effectively must start with the selection of a good topic, Goéry Delacôte said. A strong project board and knowledgeable advisory council are also important. “To succeed you must be informative and entertaining, without compromising the quality of the science.”

A successful exhibit must bring together great designers, quality presenters, and excellent educators. “There must be good scientists who mesh well with those who focus on the communication of science; it’s important both to have quality and to convey the messages entertainingly.”

Delacôte showed delegates many of the elements in a recent DNA exhibit at his centre. The content was expressed in various media and using a variety of interactive tools. Some parts of the exhibit were extremely simple, such as a conventional book in which the DNA sequence is recorded, giving some sense of its enormous complexity. Others used interactive technology to let visitors experiment with things like genetic implantation.

Web news and views and exhibit monitoring are essential, Delacôte added. Forums allow for discussion of the most recent updates and developments, and there is a mechanism for changing the exhibit information almost as soon as the science advances.

Because the topic is somewhat controversial, in that it conflicts with some notions of creationism, Delacôte emphasized the importance of creating a zone for dialogue where people can express their ideas and contribute to the debate.

“You have to be serious with science,” he said. “You can’t cheat people with oversimplification but must provide them with the tools that allow them to discuss science in a fair and informed way.”

Mamoru Mohri, Miraikan, Japan

People are overwhelmed with the reality and seeming complexity of the world today, Mamoru Mohri said. So much information is difficult to understand, and the process becomes even more daunting when people have to decide who and what to believe. To fill this void, the Japanese government created a plan to improve science literacy and to bring science to the people.

Cutting-edge science exhibits at Miraikan are successful because of the hands-on involvement of many scientists. In-house science communicators are the foundation of the centre. They initiate dialogue with visitors, not only to explain the exhibits but also to explain why particular research is important and how the science has an impact on visitors' lives.

A wide variety of interactive exhibits bring together cutting-edge scientists and the public, Mohri said. Active scientists come to the centre and interact with the public, encouraging them to ask questions in an open dialogue. Other programs introduce young scientists to the public, giving them an opportunity to share their research and become more comfortable communicating it to the public.

In addition, there are six active labs within the centre where actual cutting-edge research is being conducted. The public can visit the labs, watch the research, then have coffee and chat with the scientists. "Miraikan does not just exist to promote public understanding of scientists but also to promote the scientists' understanding of the public," Mohri said.

Gillian Thomas, Miami Science Museum, Miami, Florida, United States

The Miami Science Museum is a new and very small centre that is trying hard to present new science and has encountered some surprises and challenges along the way, Gillian Thomas said. Some of those challenges have been associated with ensuring that the centre is reaching those who would most benefit from it.

Thomas described a new program, Outward Bound, which brings in children from underprivileged homes where neither parent had the benefit of a higher education. The importance of community partnerships in developing programs such as this or in doing other kinds of outreach cannot be overemphasized, she said.

"We have known for a long time about how close and long-term mentorship and meeting with scientists and science centre staff can transform people's lives, but some of the challenges have been unexpected," Thomas said.

For example, social context for these interactions has turned out to be extremely important for young people. They tend to ask scientists very personal questions that seem to have little to do with the subjects at hand but are important from their perspectives as they try to contextualize how the pursuit of science might have an impact on their lives.

It has also been extremely beneficial to bring scientists into venues where they can interact with more general and diverse audiences. Her centre routinely gets up to a thousand visitors for their laser light and astronomy show, so they added a science display and presentation to the beginning.

Another extremely successful approach is to bring in-depth research to the museum floor. Thomas described a current installation that is exploring metabolic syndrome, a condition linked to obesity and heart morphology. It aims to contrast two groups of children to determine whether it is possible to effect some behaviour changes that will positively affect health, and how to present that information to the public.

“Success seems to lie in layering different sorts of things and being open to learning from the surprises and challenges,” Thomas concluded.

Closing Ceremony

Mike Bruton, Chair, 6th Science Centre World Congress, Cape Town, South Africa

The next science centre world congress promises to be both exciting and informative. Chair Mike Bruton presented the conference logo and described the facilities and many of the attractions that Cape Town has to offer. He also challenged the international scientific community to start exploring the sub-themes that have been developed. These include the universality of science, the contributions of different cultures, indigenous knowledge systems, and how to embrace the African continent as part of the global science centre community.

The Toronto Declaration

The conference hall filled with applause and emotion as representatives of each of the regional networks and the International Program Committee signed *The Toronto Declaration*. The declaration arose out of a consensus that identifying an inspirational and motivational agenda would help science centres get recognition for the important role they play, while presenting a shared set of beliefs and common commitments for the future, Congress Chair Lesley Lewis said.

Lewis reflected that the commitments and vision expressed in the declaration mirrored the discussion that took place throughout the Congress. She read the commitments outlined in the Declaration:

- We advocate that all citizens should have access to a science centre or its services in their own region. We will use our collective expertise and experience in helping to expand the activities of our sector to places and communities where science centres are needed and wanted but not yet established.
- We commit to work together to overcome cultural, physical, social, economic and geographic barriers to engage and connect people through science.

- We will actively seek out issues related to science and society where the voices of citizens should be heard and ensure that dialogue occurs.
- We will work together to identify how science centres can contribute to the achievement of the United Nations Millennium Goals.
- We will search for funding and mechanisms to create a better future for all through global engagement with issues of local, national and global relevance, including environmental awareness, science education, and innovation.
- At the 6th Science Centre World Congress, to be held in Cape Town, South Africa in 2011, we shall assess the extent to which we have, as individual institutions and collectively, moved forward on the goals established here.

“They’re powerful words, strong commitments,” Lewis concluded, “but we have the strength of science centres around the world to fulfil them.”