

science

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THE MONTHLY NEWSLETTER OF SCIENCELENS LTD

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science**lens**.

PHOTOGRAPHING
SCIENCE, INDUSTRY
AND TECHNOLOGY



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From the editor

Welcome to the second edition of Sciencelens Monthly for 2011. The year is in full swing, students are back at university, and life is speeding ahead.

That said, there are many among us whose lives are not going ahead as normal, and for whom life changed irreversibly on Tuesday, 22 February. My sincerest condolences to everyone who was affected in some way by the terrible tragedy in Christchurch, especially those among you who may have lost loved ones or suffered other serious losses during the earthquake. Our thoughts are, and will remain, with you through this time.

This past month my faith in the local science communication scene has been bolstered again after attending the SCANZ 2011 conference – more about this in my conference feedback report in the newsletter. Suffice to say, I think there are many excellent, innovative science communicators operating in New Zealand. I just hope that, through Sciencelens, I can make a small contribution towards this very important domain.

At the SCANZ conference, I presented a short talk on photography and visual science communication, and one of the topics touched on was “What makes a good science photo?”. I thought it might be a good idea to expand on that in the newsletter – read more on page 4.

As always, please let me have your comments and feedback on the newsletter. If there are any science photography topics you would like to see discussed in this newsletter, please send those along too.

Cheers,

Gerry



SCANZ 2011 CONFERENCE FEEDBACK



The 2011 Conference of the Science Communicators Association of New Zealand (SCANZ) took place in Auckland, on 21-22 February. The event highlighted the diversity of the science communication field, with topics ranging from the use of new media in the popularising of science, through to an art project where artists used the work of scientists as inspiration for their art.

SCANZ 2011 Conference Review

SCANZ 2011 provided an excellent networking opportunity, and it was good to personally meet some colleagues in the science communication domain that I had only known via email before. I also made numerous new acquaintances – people doing extraordinary work in the field – making it a most rewarding event.

I was pleased to be given the chance to do a quick presentation on the role of photography in visual science communication – thanks very much to the organisers for this opportunity.

Brief personal highlights of the 2-day conference

Being firmly rooted in the visual end of the science communication spectrum, I was impressed by the number of presentations dealing with visual aspects, from YouTube videos to theatre plays to art projects. Below are just a few of the many highlights from this year's conference.

Daniel Keogh (aka Professor Funk) shared his experiences in the use of new media (in particular the YouTube video channel) in communicating science concepts to a non-scientific audience. His focus on humour and the absurd is very effective in drawing attention to topics that may traditionally be considered boring, and he has a very novel and fresh approach to his subject matter. The viral nature of many new media and social networking technologies clearly hold huge potential for the popularising of science.

In his presentation on the importance of science communication in the public understanding of science, **Professor Sir Peter Gluckmann** focused on the interaction between scientists, media, policy makers, politicians and the public. He addressed a number of important issues, such as the risk of inaccurate communication of scientific information to a general audience, and the responsibilities of various players (scientists, journalists, politicians, etc) in the dissemination of scientific information.

Actor and playwright **Arthur Meek** spoke about his play, *'Collapsing Creation'*, about the life of Charles Darwin. In particular he addressed the challenges to the science communicator in communicating something as vast and profound as the life and work of Darwin in a contained, limited setting such as a theatre play. How do you distil the essence of the subject, and 'manipulate reality' for the sake of clearly communicating the message?

MacDiarmid Young Scientist of 2009, **Dr John Watt** (presenter), and **Glenn Elliott** (producer and creator) of the TVNZ 7 science series *'Ever Wondered'*, shared their experiences in interacting with a wide range of scientists doing extraordinary work. They discussed the challenges in communicating complex research concepts in an entertaining way, and finding visually appealing angles to the subjects they were covering. I particularly enjoyed Glenn's comment that everything we do is an emotional journey, and that as science communicators our challenge is

to generate an emotional response from our audience. I believe good science visuals, and science photography in particular, has a key role to play in this emotional journey.

The panel discussion with **Philippa Mossman** (TVNZ 6/7), **Pamela Stirling** (The Listener), **Vincent Heeringa** (Tangible Media) and **Graeme Hill** (RadioLive) was excellent, clearly highlighting the differences and similarities between the different communication channels of TV, radio and print. They discussed their needs and requirements in terms of science communication, in order to effectively reach their respective target audiences. To me the discussion again highlighted the importance of good visual content to support the science message.

Erin and Leah Forsyth of The Busy Nice, presented a project they curated – a science-art collaboration and exhibition entitled *'Do You Mind'*. The project created one-on-one couplings between 15 diverse artists and 15 scientists working in brain research, with the idea being that the scientists would communicate, show and explain the work they did to the artists, and the artists in turn would use this knowledge as inspiration to create a number of works of art intended to visually represent their understanding of, and response to, the scientists' work. The project ended up being quite successful, resulting in a publication and a well-supported exhibition. Also interesting in their presentation, was the Forsyth sisters' discussion of the different traditional and new media channels they used in promoting and advertising the project.

Nicola Vallance, formerly from the Department of Conservation, and now with Forest and Bird, made a very interesting presentation on science and activism, and the critical role of effective science communication in pushing agendas. She also touched on the idea of informing and shaping public perception, and the importance of using different tools and channels to effectively create an emotional response to your message.

In all, a most enjoyable event staged by the SCANZ committee. Congratulations also to **Phil Johnstone** from the Auckland Museum, who was elected at the AGM as the new SCANZ President for the upcoming year.

I look forward to an interesting year ahead on the science communication front.

I am often asked the question “What makes a good science photo?”. While a comprehensive answer to this question is probably a large enough subject to fill a book, it might be useful to briefly touch on a couple of important requirements that I believe need to be addressed to create good science photography.

Some thoughts on good science photography

In a nutshell, a science photo should be technically correct, informative, and, if possible, visually appealing and stimulating.

Technically correct

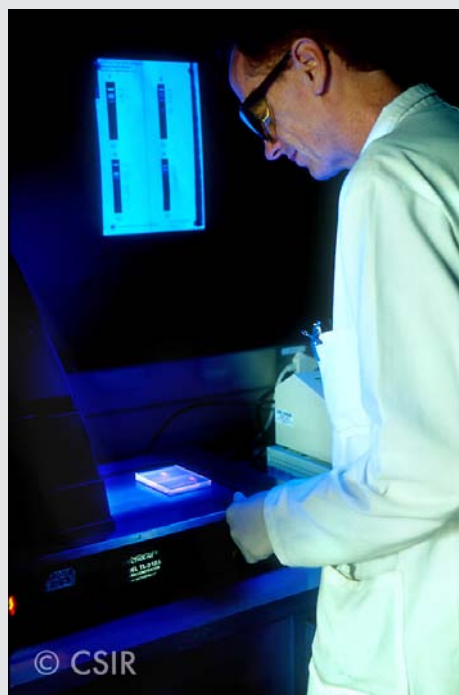
When photographing scientific equipment and subjects in a laboratory environment, the photographer is often faced with technically challenging conditions – complex combinations of natural and artificial light, high contrast and widely varying light intensities. Space in which to manoeuvre might be very limited, making it difficult to access the subject, and to achieve a good photographic angle.

To handle these situations, the science photographer needs the backup of good technical training. In particular, understanding light is a critical skill, and the photographer needs to be comfortable working with a mobile lighting setup or, more often than not, needs to have the ability to make the most of the ambient available light to get a usable shot.

Informative

In science photography technical correctness is important, but not necessarily sufficient to lift the image above the average. Ideally, the image should do more than just visually represent the subject – to contribute at the level of science communication, the image should add some additional information to the subject being photographed.

For example, when photographing a moving object, it is useful to use a slower shutter speed to illustrate this motion, instead of freezing the movement with a standard snapshot. However, care should be taken not to introduce excessive movement, which might blur the subject to such an extent that it is no longer possible to see what is being photographed. Another good example comes from the laser technology



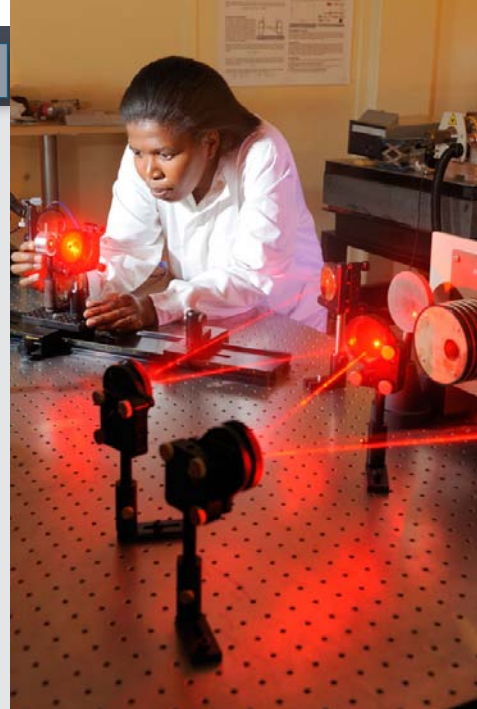
Dealing with complex combinations of natural and artificial light, as well as high contrast scenes, are some of the technical challenges facing the science photographer.

field. In the actual lab, the laser beams are not visible to the naked eye. In a laser display smoke is often used so the audience can see the beams, but this is not normally an option in a laboratory setup. Thus the photographer needs to use innovative techniques to show the path of the laser beams, in order to turn the photo into an informative visual document.

At a more conceptual level, it is often useful to capture scientific activities from a novel angle, which could help generate a different and deeper understanding of the subject being photographed. Capturing the image from the “normal” viewpoint may not have the required impact, and finding a unique view can often help in creating a more informative image.



The photographer can use novel angles to illustrate actions (above). Techniques such as long exposures to capture motion can also make an image more informative (right).



Innovative techniques are required to visualise phenomena such as laser trails.

In general, while you require technical proficiency to create a technically correct image, having a background and interest in, and some level of understanding of your scientific subject allows you as the photographer to move to the next level to create images that are informative, and of value as part of the science communication process.

In a nutshell, a science photo should be technically correct, informative, and, if possible, visually appealing and stimulating.



Visually appealing

While being 'pretty' may not be a requirement of all science photography, it is often the more visually appealing photo that resonates with the audience, in particular when using the image in the popularising of science among a non-scientific audience. Science subject matter can be notoriously bland and boring to the non-scientist viewer, and the challenge to the science photographer therefore becomes finding a way of making the subject more visually appealing.

Often the beauty lies in some small aspect of the subject, and the photographer needs to be able to find the beauty



Image from the Sciencelens Science Art collection.

Finding the beauty in the detail (above) and capturing subjects from a dynamic angle (right).

in the detail. Capturing the subject from an interesting dynamic angle could also contribute to the creation of a more appealing image. The challenge therefore becomes finding the extraordinary in the ordinary.

Finally, I believe there is a lot of value and beauty to be found at the intersection of science and art.



Photographic images can be manipulated, physically and digitally, to create something new and vastly different from the original photograph – the scope and possibilities in this regard are endless.

New Zealander of the Year

One of New Zealand's most respected scientists, Sir Paul Callaghan, has been named the Kiwibank New Zealander of the Year 2011.

Sir Paul is currently the Alan MacDiarmid Professor of Physical Sciences at Victoria University of Wellington and Sir Neil Waters Distinguished Professor at Massey University.

Awards patron Jim Bolger said, "Sir Paul Callaghan has done so much to raise the profile of New Zealand as a leader in the field of science. His commitment in connecting science, technology and business for the positive economic development of New Zealand is inspirational and encourages others to also make a difference."

Brain Awareness Week, 14-20 March 2011

Brain Awareness Week (BAW) is a global campaign to increase public awareness about the progress and benefits of brain research. Brain Awareness Week also aims to increase community awareness of the potential for improving the long-term health of the brain through lifestyle changes and risk-reduction strategies.

Numerous public lectures and other events have been organised across the country – find out about events near you at www.brainweek.co.nz/events.

Science Conferences in March

- » **14th Australasian Tunnelling Conference**, 8–10 March 2011, Auckland
- » **18th International Farm Management Congress**, 20–25 March 2011, Methven
- » **Accelerator Mass Spectrometry International Conference**, 20–25 March 2011, Wellington
- » **NZBIO 2011**, 21–23 March 2011, Auckland

- » **New Zealand Marine Industry Conference 2011**, 23–25 March 2011, Queenstown
- » **Goodfellow Medical Practitioners Symposium**, 25–27 March 2011, Auckland
- » **Australasian Winter Conference on Brain Research 2011**, 27–31 March 2011, Queenstown
- » **International Symposium: Dietary Protein for Human Health**, 27–30 March 2011, Auckland
- » **NZ Scientific Drilling Workshop**, 29–31 March 2011, Dunedin

NZ Student film recognised at Mountain Film Festival, USA

'*In the Shadow of the Mountain*', a 25 minute documentary film produced by recent graduates of the University of Otago's Centre for Science Communication, Hugh Barnard and Max Segal, has won the 'Best Director' award at the Mammoth Mountain Film Festival in the USA. Barnard and Segal produced the film in 2010 as part of their Masters in Science Communication.

Congratulations to Hugh and Max on this excellent achievement!

EurekAlert! Announces the 2011 Fellowship Recipients for International Science Journalism

Four accomplished science journalists – from Argentina, Chile, China, and Egypt – will attend the AAAS Annual Meeting in Washington, D.C., under the AAAS-EurekAlert! Fellowships for International Science Reporters.

EurekAlert!, the global science news service operated by AAAS (Advancing Science, Serving Society), offers the fellowships to help support excellence in science

communication worldwide by providing science reporters with the opportunity to cover the latest research, and to network with peers from around the world.

The recipients of the 2011 fellowships are:

- » **Nadia El Dakrouy**, El Dostor newspaper, Egypt;
- » **Andrea Obaid Carrión**, Radio Cooperativa, Chile;
- » **Federico Kukso**, Muy Interesante magazine, Argentina;
- » **Dawei Yu**, Caixin Media, China.

Wouldn't it be nice to see one of our New Zealand colleagues on this list?

Year of Chemistry 2011 launched in New Zealand

New Zealand's involvement in the Year of Chemistry 2011 was officially launched on Wednesday 9 February in Wellington by Dr Di McCarthy, chief executive of the Royal Society of New Zealand. The year is being celebrated worldwide. The New Zealand launch was part of an evening hosted by the MacDiarmid Institute at the Michael Fowler Centre which included a talk by Sir Richard Friend from the Cavendish Laboratory at Cambridge University, UK, where Ernest Rutherford studied.

Dr McCarthy said 2011 was chosen because it marks the 100th anniversary of the Nobel Prize in chemistry being awarded to Madame Marie Curie. She said the Royal Society of New Zealand has teamed up with the New Zealand Institute of Chemistry to promote the Year of Chemistry. A new website is acting as the hub for local activities, news and events at www.yearofchemistry.org.nz.

New Zealand has produced two Nobel Prize winners in chemistry, Ernest Rutherford and Alan MacDiarmid.

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Quote of the month:

"...words and pictures can work together to communicate more powerfully than either alone."

William Albert Allard

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