

## Communicating Physics Through The Arts

**Date:** Friday 20<sup>th</sup> June 2014

**Location:** Franklin Theatre, Institute of Physics, 76 Portland Place, London, W1B 1NT

Some artists use physics in the development of their installations such as the *Light Show* in the Hayward Gallery in 2012. This meeting of the Physics Communicators Group will ask artists to explore how they use their knowledge of physics during the development of their work and how physics could be communicated to the general public through their work. The meeting will also explore how the arts can be used to help teach physics concepts in schools and colleges.

**Register here:** <http://bit.ly/1intbCY>

Meeting schedule:

- 13.00           Arrival
- 13.15           **Welcome and live performance: Sax excites non-Newtonian fluids**  
*Phil Furneaux, Lancaster University*  
*Adrian Pritchard, Artist*
- Session 1: Art reinforcing physics*
- 13.30           **Art and Physics in Unorthodox Partnerships**  
*Dr Pangratios Papacosta, Columbia College Chicago*
- Session 2: Artists working with physicist*
- 14.15           **Covariance**  
*Lyndall Phelps, IOP artist in residence*  
*Dr Ben Still, Queen Mary, University of London*
- 14.45           Refreshments and networking opportunity
- Session 3: Artists using physics in their work*
- 15.15           **The Luminous and the Grey**  
*David Batchelor, Artist*
- 15.45           **Blind Aesthetics: Representing the Invisible**  
*Conrad Shawcross, Artist*
- 16.15           **Investigating the Nature of Matter using Viscous Substances**  
*Adrian Pritchard, Artist*
- 16.45           Discussion and conclusions
- 17.00           Continue to the Masons Arms, Devonshire Street

## Talk summaries and speaker biographies

### **Art and Physics in Unorthodox Partnerships**

*Dr Pangratios Papacosta, Columbia College Chicago.*

Art and physics can be partners in many ways besides the authentication and preservation of artifacts. In education integrating art in the curriculum can reinforce understanding and improve attitudes towards physics. Dr Papacosta, a professor of physics, has been using this method in his teaching for over 25 years. His students also have the option of expressing physics concepts artistically or identify elements of modern physics (relativity, quantum physics or cosmology) – real or metaphorical – in paintings exhibited at the Art Institute of Chicago. This pedagogy stimulates new ways of thinking and strengthens interdisciplinary skills that are essential to innovation. Mass communications remains an underused area for a potential partnership between science and art. Scientists can partner with artists whenever critical science issues are to be communicated to the public. Through their paintings, films, poems, photographs or even dance and drama performances, artists can reach out millions of people with greater impact than hundreds of science articles. More so, through their work artists can also excite the public about the wonders, mysteries and promise of science. The presentation includes examples of all art/physics partnerships mentioned above.

Professor Papacosta earned a PhD in physics and a Master's degree in history of science from the University of London. He taught in London and Florida and since 1987 at Columbia College Chicago, where he coordinates the physics curriculum. His scholarship deals with the history and pedagogy of science, Einstein, Space Exploration and the intersection between Science, Humanities and the Arts. He has published in these areas and presented papers at national and international conferences. His book, *The Splendid Voyage: On New Sciences and New Technologies*, was translated in numerous languages. He served as the President of three academic organizations and he is currently on the Illinois Humanities Council Speakers Bureau and the Editorial Board of the *International Journal of Teaching and Learning*. In 1994 Dr Papacosta received the Columbia College Teacher of the Year award and in 2009 he was elected Fellow of the Institute of Physics of Great Britain.

Dr Papacosta has recently completed a science documentary as part of the Women's History Month celebration, a project driven by his desire to communicate to the public the contributions of a little known woman astronomer whose work was used by great astronomers like Hubble yet she seems to have been ignored by history ONLY because she was a woman. Information about the documentary can be found on the Columbia College Chicago web site, [www.colum.edu](http://www.colum.edu), by following the 'Women in Science' link.

## Covariance

Lyndall Phelps, IOP artist in residence

Dr Ben Still, Queen Mary, University of London

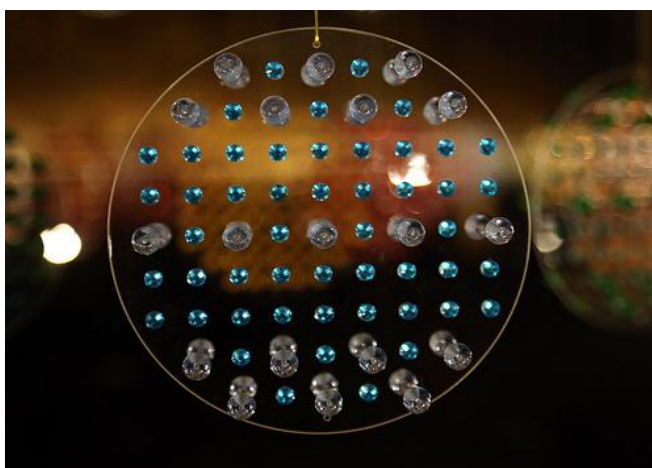
Artist Lyndall Phelps and particle physicist Dr Ben Still will discuss their collaboration, which resulted in *Covariance*, their recent installation at the London Canal Museum. *Covariance* was the first in a programme of artists-in-residence commissioned by the Institute of Physics called *Superposition*, which brings together artists and physicists to develop new ideas and artworks. The installation brings together a range of different influences from the function and aesthetics of particle detectors to the way research data is analysed and visualised by physicists. It also references the role of 'female computers' who were responsible for collating data from bubble chambers, an early form of particle detector, and the materials used in historical scientific instruments.

Lyndall Phelps is an installation artist whose work is often site/context specific and strongly process based, relying on research and collaboration with a range of individuals and organisations, whose interest reflect her own. Recent solo exhibitions include *Softkill* at University of Hertfordshire Galleries; *Touch* at Leamington Spa Art Gallery and Museum; *The Pigeon Archive* at Milton Keynes Gallery and *Knit one purl one* at One Canada Square, Canary Wharf, London.

More information about Lyndall's projects can be found here: [www.lyndallphelps.com](http://www.lyndallphelps.com).

Dr Ben Still is a visiting academic at Queen Mary, University of London, where he worked on the international T2K experiment. He is interested in taking nature apart and stripping it down to its indivisible components, the fundamental particles, to figure out how our Universe today was created and what it is made from. Ben was awarded the IOP Physics Communications Group's 2012 Physics Communicators Award and the IOP's High Energy Particle Physics Group's 2012 Science in Society Award. These outreach prizes were for a wide range for projects engaging a wide range of audience; from school students with LEGO Physics through to adults and art enthusiasts with Jiggling Atoms and Super-K Sonic Boooooom! As part of the T2K experiment Ben had a management role in the experiment's computing and data distribution, while also using various statistical techniques to develop new analysis methods for squeezing more physics out of the experiment's data.

More information about Ben and his work can be found here: [www.benstill.com](http://www.benstill.com).



Covariance (2013)

## **The Luminous and the Grey**

*David Batchelor, Artist*

When I stumbled into colour, over twenty years ago, I was surprised that something so utterly familiar was at the same time so unpredictable, so elusive, so resistant to analysis and to language. At first this made me suspicious, but I soon came to realise this is exactly what makes colour so rich and fascinating. Since the early 1990s I have tried to make colour the subject of my sculptures, paintings, drawings, photographs and writing. I have always been drawn to the luminous, artificial, electro-chemical colours of the city, and in recent work I have become preoccupied with the relationship between these colours and the forms of darkness that often accompany it.

More information about David's work can be found here: [www.davidbatchelor.co.uk/works/3D/](http://www.davidbatchelor.co.uk/works/3D/).



Magic Hour (2004/07)

## **Blind Aesthetics: Representing the Invisible**

*Conrad Shawcross, Artist*

Conrad will describe his work with light as was exhibited at the Light Show in the Hayward. He will be discussing his work *Slow Arc IV*, 2009, in relation to the scientific and philosophical ideas which informed the piece and in the context of his practice more generally.

More information about Conrad's work can be found here: <http://conradshawcross.com>.



Slow Arc Inside a Cube IV (2009)

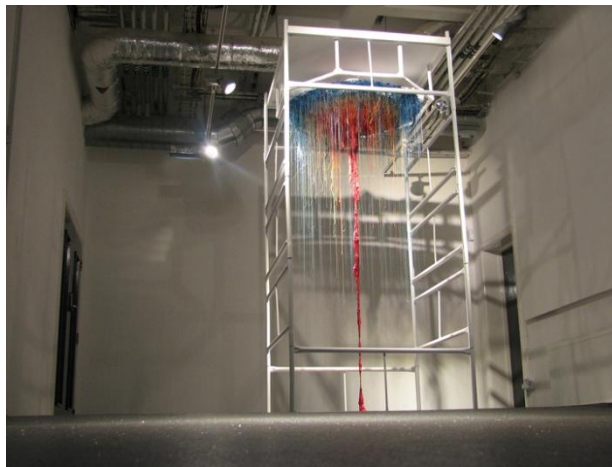
## Investigating the Nature of Matter using Viscous Substances

*Adrian Pritchard, Artist*

Adrian Pritchard “investigates the nature of matter” using “viscous substances” to create timely affects of anticipation and unpredictability. His installations can be regarded as both performance painting and sculptor as the work evolves constantly using gravity itself to spread, stretch and snap fluidic properties. Apparatuses are set up like experimental arenas for events to manifest and unfold.

For the Manchester Science Festival 2012 Adrian developed the *Osmosis Machine* a kinetic art installation which was exhibited at The Royal Exchange Theatre. More recently the work was selected for the Neo Art Prize 2013 and awarded the visitors prize by the general public.

More information about Adrian’s work can be found here: [www.adrianpritchard.com](http://www.adrianpritchard.com).



Glooptower One (2013)