

MEDIA RELEASE

3 August 2009

Discover the light and dark of science at the Powerhouse Museum as part of the Ultimo Science Festival, 21 – 30 August 2009

The Powerhouse Museum will take you on an intriguing journey through the light and dark of science as part of the Ultimo Science Festival, 21 - 30 August. A program of events for all ages will explore the science behind pleasure, pain and fear with extraordinary live performances, reveal Einstein's theories through intriguing experiments, or show you how to create hyperbolic coral. More details about the Powerhouse Museum's program are below or visit www.ultimosciencefestival.com.

ULTIMO BIG NIGHT OF SCIENCE

Friday 21 August, 5.30-9.30pm

Discover space-art, dark matter, psychology, physics and more through an entertaining evening of talks, shared discussion and live music. Meet International Space physicist and artist Jon Lomberg, 2005 Australian of the Year and Head of the Royal Perth Hospital's Burns Unit, Dr Fiona Wood, Psychologist Professor Bart Anderson and Dark Matter specialist Professor Joss Hawthorn from the Institute of Astronomy at the University of Sydney. *Cost: \$10. Bookings at www.ultimosciencefestival.com.*

DARK SCIENCE – FLESH AND PSYCHE

Dark Science is two nights of adults only science exploring the themes of flesh and psyche, hosted by ABC radio broadcaster Natasha Mitchell.

Flesh

Wednesday 26 August, 7-10pm

Suspension artists, tattooists, performers and scientists will engage you in an evening of discussion and experimentation to find out just what the human body is capable of. Discover more about the biology of skin and muscles and learn about the mysteries of scars, burns, pain and perception with leading researchers, perception psychologists and skin specialists. Suspension artists will demonstrate how hooks pushed through the skin can carry the entire weight of the body, plus dare to be pierced yourself! Speakers include burns specialist, Professor Chris Maitz; pain researcher Dr Lorimer Moseley; and Dr Stephen Shumack from the Australian College of Dermatologists. All participants must be 18 years +. *Cost: \$10. Bookings at www.ultimosciencefestival.com.*

Psyche

Friday 28 August, 7-10pm

Look into your mind and confront your fears; be it spiders, snakes, bugs, death or needles. Psychologists will explore the mental aspects of fear and pain and help you understand exactly what these things are and how they affect you. Suspension artists will demonstrate how hooks pushed through the skin can carry the entire weight of the body. Discover your own level of fear by letting a spider crawl over you, lie in a coffin or perhaps volunteer for a tattoo. Speakers include body modification researcher Dr Nikki Sullivan; fear researcher Dr Doris McIlwain; body perception psychologist Dr Tatjana Seizova-Cajic; and piercing and performance researcher Gretchen O'Riordan. All participants must be 18 years +. *Cost: \$10. Bookings at www.ultimosciencefestival.com.*

THE EINSTEIN LECTURE

Monday 24 August, 6pm

Join a discussion with internationally renowned theoretical physicist and National Science Week Tour guest Lawrence Krauss. Currently Foundation Professor in the School of Earth and Space Exploration and Director of the New Origins Initiative at Arizona State University, Krauss' studies include the early universe, dark matter, general relativity and neutrino astrophysics. He is famed for his prescient suggestion that a still dark energy might dominate the energy of the universe and govern its expansion. Physicist Dr Roger Rassool and his team from The University of Melbourne will also present a spectacular exploration of some of Einstein's theories. Find out about surprising phenomena such as hover bikes, floating apples,

bottomless pits, spontaneous combustion and glue made out of air. Plus a dazzling laser show will thrill the kids while the science amazes the adults. Presented by the Powerhouse Museum and Australian Institute of Physics. *Free entry, bookings essential at www.ultimosciencefestival.com.*

SYDNEY HYPERBOLIC CROCHET CORAL REEF EXHIBITION

21– 30 August

The mathematics of hyperbolic space was once considered impossible to represent – until it was discovered that coral reefs were already doing the job! The concept was inspired by geometric models of hyperbolic space, originally developed by mathematician Dr Daina Taimina in 1997. In 2005 Margaret and Christine Wertheim of the Institute for Figuring in LA conceived the idea of crocheting a coral reef by developing Dr Taimina's techniques to make a whole taxonomy of organic, reef-like forms. The reefs created using craft techniques not only look like actual coral reefs, they draw on the same geometry endemic in the oceanic realm. The project draws attention to the beauty and fragility of living reefs and the ecosystems vulnerable to the effects of climate change. Come and see the coral reef and learn how to crochet your own piece of 'reef' for the exhibition.

Free with Museum admission - \$10 adult, \$5 child, \$25 family.

TALKS AFTER NOON

A stitch in time: process based art and connecting community

Wednesday 19 August, 12.30pm

Claire Conroy, Michaela Davies and Charlotte Haywood, In Stitches

In Stitches collective have been facilitating the making of the Sydney hyperbolic crochet coral reef. The process of making this artwork has involved hundreds of people all over Australia for 11 months. It has brought together people who have interests that cross mathematics and environmental science, traditional craft and contemporary art practice. In Stitches are tracing the network of people involved and are using creative modelling to view the relationships built through such a large scale collaborative artwork.

Cost: Free with Museum admission - \$10 adult, \$5 child, \$25 family.

Climate modelling and climate change: why listen to the science?

Sunday 23 August, 2.00pm

Climate models form the basis of predicting future climate change. But can we believe them? Leading climatologist and co-Director of the UNSW Climate Change Research Centre, Professor Matthew England, will outline the main components of climate models, how they interact, and what physics they are based on. Professor England led the 2007 Bali Climate Declaration by Scientists; is co-chair of the CLIVAR Southern Ocean panel and a member of the CLIVAR Working Group on Ocean Model Development. He is an expert in the ocean's role in regional climate variability and global climate change.

Cost: Free with Museum admission - \$10 adult, \$5 child, \$25 family.

From certainty to fallibility: an epic tale from the history of mathematics

Wednesday 26 August, 2.00pm

Matthew Connell, Principal Curator, Science Technology and Industry, Powerhouse Museum

For 2000 years, the geometry of Euclid's Elements was regarded as the pinnacle of human reasoning and the most reliable branch of knowledge. The Sydney hyperbolic crochet coral reef demonstrates a new geometry which, when discovered 200 years ago, led to a great philosophical crisis. How could the shapes seen rendered by crochet have brought the mathematical world to its knees? Matthew Connell will discuss the crisis started by the discovery of non-Euclidean geometries and how attempts to resolve it led to conception of the defining technology of our age.

Cost: Free with Museum admission - \$10 adult, \$5 child, \$25 family.

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