

# The 2008 Einstein Lecture: The Powerhouse Museum & The Australian Institute of Physics – NSW Branch

Present

## *Einstein and the dream of plasma fusion energy*

6.30pm, Monday August 25<sup>th</sup> 2008, Powerhouse Museum, 500 Harris Street Ultimo

***Entrance is FREE***

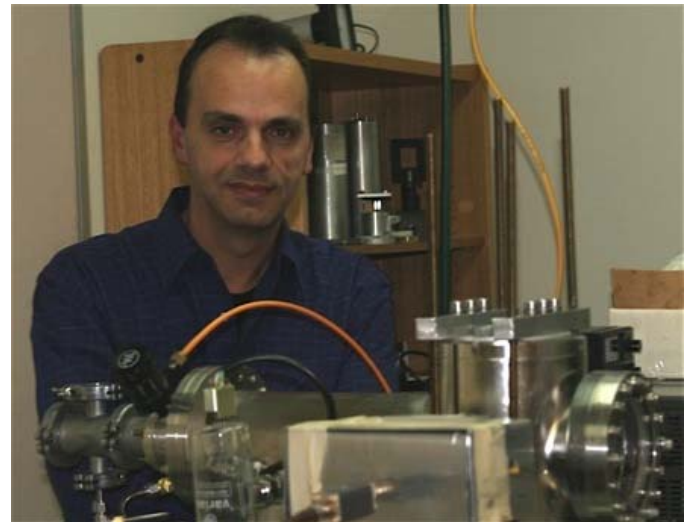
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We already use three states of matter to generate energy. Coal, for electricity, petrol and natural gas, to power our cars and buses. All of which produce carbon dioxide gas, the major component in human produced climate change.

Einstein's most famous equation,  $E = mc^2$ , provides a solution to our energy problems. It tells us that a small amount of mass (m) can be converted to a great deal of energy (E). Sadly, it doesn't tell us how to do it.

Physicists are now using the fourth state of matter, known as a **plasma**, to make full use of Einstein's equation to produce abundant and clean energy for millions of years. Known as **plasma fusion energy**, its raw materials can be found in ordinary water and we drink them every day.

Plasma has several common uses such as in large screen television sets, energy efficient lighting and even in most flat screen (liquid crystal) computer monitors. The future holds promise that the plasma will become a major energy generator method. In this lecture, the science of plasma physics and how it can be used to produce energy will be presented. **Demonstrations** of achieving the plasma state with ordinary household objects will be given. Members of the audience will leave with a simple device that gives them a unique viewing window on all that is made of a plasma around us.



Guest presenter Joe Khachan from Sydney University will present live experiments and demonstrations detailing discoveries since Einstein's work 103 years ago with particular focus on the science of energy.

For more information about this event please direct your enquiries to **Dr Frederick Osman** on [fred\\_osman@exemail.com.au](mailto:fred_osman@exemail.com.au)

*Event sponsored by:*



***The Australian Institute of Physics – NSW Branch  
& The Powerhouse Museum.***