

Joint Technical Program Electrical & Electronics South Australia



TelSoc



IEEE



The Institution of
Engineering and Technology

AFRICAN SOLAR TAXI

TUESDAY 18th FEBRUARY 2014 - 5:45pm for 6:00pm start

**ENGINEERS AUSTRALIA
LEVEL 11, 108 KING WILLIAM ST
ADELAIDE SA 5000**

**GUEST SPEAKER:
DR PETER PUDNEY,
BARBARA HARDY INSTITUTE
and UNIVERSITY OF SOUTH AUSTRALIA**

REGISTER ONLINE

<http://tinyurl.com/african-solar-taxi>

PRICES (inc GST)

Member of JTP organisation	FREE
Non-Member	\$30.00

Maternal mortality and the spread of AIDS from mothers to babies are serious problems in rural Zimbabwe. The lack of transport between villages and health care facilities is a significant factor; getting to a hospital results in much better outcomes for mothers and babies.

Dr Peter Pudney says: "About a year ago I was asked by an Italian Non-Government Organisation working in the north of Zimbabwe whether it was possible to use a solar car to carry pregnant women to hospital. My initial reaction was that a conventional car, or even an electric golf cart, would be easier and more reliable. But diesel fuel and electricity are scarce, so these were not an option. Sunlight is abundant in Zimbabwe, so a group of volunteers started designing a low-mass solar-powered vehicle that could be used to carry women to hospital -- the African Solar Taxi. The Taxi had to be robust enough to carry a driver, the mother and her companion up to 80 kilometres over dirt and crumbling bitumen roads, but it also had to have low mass so that the energy required for propulsion was minimised. We have designed a Taxi that uses low-mass (and easily repairable) composite body materials and readily-available and inexpensive electric drive components. Solar energy will be collected and stored by solar charging stations at the hospital and at a remote clinic, where the Taxis can be recharged. We are currently building the first Taxi, and plan to ship it to Zimbabwe in mid-2014."

About the Speaker

Dr Peter Pudney is a Senior Research Fellow in the Barbara Hardy Institute, and Deputy Director of the Centre for Industrial and Applied Mathematics, at the University of South Australia. His research interests are in applied optimisation and optimal control. He is one of the developers of a driver advice system which is used on freight and passenger trains around the world to calculate real-time driving advice to help trains stay on time with minimum energy use. He has also helped design, build and race solar racing cars, and is currently the Chair of the World Solar Challenge Technical Committee. He has led projects investigating the impact of electric vehicles on CO2 emissions and on electricity demand, and led a project that built a small green electric car called Trev that was driven around the world in 2010.

**Hosted by the Joint Technical Program Electrical & Electronic (SA) - Engineers Australia, TelSoc,
the Institute of Electrical & Electronics Engineers (IEEE) and the Institution of Engineering & Technology (IET)**

In conjunction with the Joint Technical Program Mechanical & Manufacturing

**Institution of
MECHANICAL
ENGINEERS**

IET The Institution of
Engineering and Technology



**ROYAL
AERONAUTICAL
SOCIETY**

**Engineers Australia South Australia, Level 11, 108 King William Street ADELAIDE SA 5000
Member Programs Coordinator - Ashlea Klingberg
(08) 8202 7100 | sa@engineersaustralia.org.au | www.engineersaustralia.org.au/sa/events**