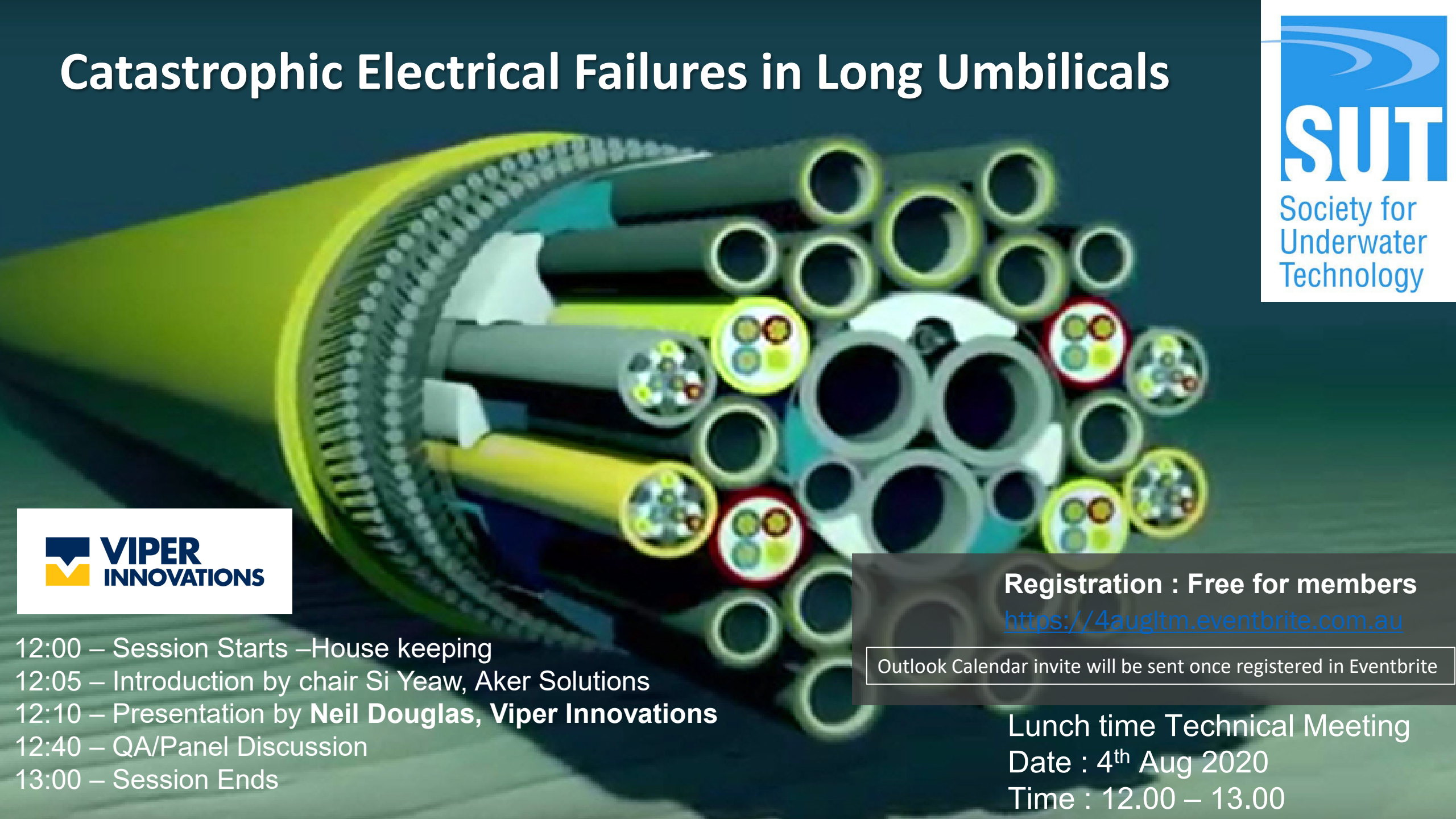
Catastrophic Electrical Failures in Long Umbilicals



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VIPER INNOVATIONS

12:00 – Session Starts –House keeping
12:05 – Introduction by chair Si Yeaw, Aker Solutions
12:10 – Presentation by **Neil Douglas, Viper Innovations**
12:40 – QA/Panel Discussion
13:00 – Session Ends

Registration : Free for members
https://4augltm.eventbrite.com.au

Outlook Calendar invite will be sent once registered in Eventbrite

Lunch time Technical Meeting
Date : 4th Aug 2020
Time : 12.00 – 13.00

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Catastrophic Electrical Failures in Long Umbilicals
LTM– 4th Aug 2020, 12:00 to 13:00

General theory is that Floating Earth (IT) power distribution systems are tolerant to a first Earth Fault, a characteristic that is unique among the range of standard power distribution topologies (as defined by IEC 60364). Furthermore, it is generally assumed that during a first fault condition the magnitude of the fault current will be negligible.

Owing to these characteristics, Floating Earth systems are first choice where high availability of the electrical supply is critical. Common applications include oil & gas subsea power distribution systems, railway signalling power distribution systems and hospital operating theatres, among others.

It will be shown how the change in transmission line characteristics during a first fault condition can impact on the topside power supply (EPU), potentially resulting in a system shutdown. In addition, we will discuss how the inclusion of passive power factor correction reactors (inductors) can sometimes exaggerate the impact of the first fault on the power source. Finally, how the first fault can lead to a catastrophic failure of the subsea connectors in certain instances will be examined.

Speaker – Neil Douglas, Viper Innovations Ltd

Neil Douglas has been in the Subsea Controls Industry for over 35 years, the majority of which were spent with what is now Baker Hughes. In 2007, along with co-director Max Nodder, he established Viper Subsea (since renamed Viper Innovations), a company that specialises in technology development and integrity management of subsea controls and electrical distribution equipment. Neil holds a Bachelor of Science degree in electrical and electronic engineering and a Masters in Subsea Engineering.