

SAUPEC Tutorial 2024

23 January 2024

14:00 to 17:00

Snacks and drinks afterwards.

Venue to be confirmed.

Rethinking power systems without reactive power

Scope

A new General Power Theory (GPT) was published in 2020. Subsequent papers expanded the theory and showed its effects. This seminar examines some implications of the new theory. Starting with an introduction to its key concepts, it quickly becomes clear why it does without reactive power. Simple examples will illustrate some applications, including novel design requirements and control approaches for converters, and how their loss minimisation has been tested. A take-away spreadsheet for the calculations will enable participants to explore their own ideas. The GPT changes thinking about measurement for metering, power quality, and the control of power-electronic converters and power systems. You will be encouraged to explore the consequences for your own work.

Presenters

Prof Bernard Bekker

Prof Michel Malengret

Prof Trevor Gaunt

Prof David Oyedokun

Dr Hilary Chisepo

Dr Sampath Jayalath

Akshay Jankee