

## Dear colleagues, customers and business partners

It is a very great pleasure to invite you to join us for a **Power Electronics** theme day at DTU in Lyngby on 28 April and at Trescal in Silkeborg on 29 April. The objective will be to improve your understanding of the physics behind each of the three topics chosen in order to become more proficient in designing circuits. **Ole Thomsen from DTU Electrical Engineering** and **Stuart Chappell fra Newtons4th Ltd.** are both highly respected experts in this field.

We will be using instruments from **Newtons4th Ltd.** Time will be allowed for taking a closer look at these products.

### Closed loop stability & Impedance Analysis

Most engineers believe it's impossible - or at least very difficult - to measure loop stability in switched circuits. By injecting a small disturbance into the circuit, we demonstrate how to measure and analyse the Phase and Gain margins on a PSM1735.

Add an Impedance Analyzer Interface and the instrument becomes a high-performance LCR meter. Ole will demonstrate day-to-day use of the PSM at his laboratory.

**Ole Thomsen - DTU  
Associate Professor**

### Standby power after EN62301

With the introduction of EN62301, power conversion techniques associated with standby power modes represent a uniquely difficult challenge for power measurement instruments. This is because a wide dynamic range is required to correctly capture peak current while maintaining low current accuracy, and low power factor requires high phase accuracy.

These issues and more will be discussed at this session

**Stuart Chappell - N4L**

### PWM Drive power analysis

This application presents a particularly demanding challenge because the fundamental frequency from which mechanical motor power will be derived is only one of many frequency components. Typical methods use filtering to suppress the high frequencies from the inverter, so the fundamental can be found and measured. The physics behind this problem will be discussed and, using a PPA5500, we will demonstrate how to measure accurate results without losing important non-fundamental information.

**Stuart Chappell - N4L**

Register to attend no later than 23 April by email to Varst Technology, [kelvin@vtech.dk](mailto:kelvin@vtech.dk). The theme day is free of charge. Lunch and refreshments will be provided during the day. Read more at [www.vtech.dk](http://www.vtech.dk).

Yours sincerely,  
Kelvin Varst  
Varst Technology

