

Advanced Topics in DC - DC Power Converters

Title

Advanced Topics in DC - DC Power Converters

Presenter

Dr Richard Redl
Consultant

Date and Venue

21-22 May 2009
iSLI, Livingston

Cost

£625 per person + VAT
(Discounts available please enquire)

Mentor Graphics Passbook = 2 Tokens
per person

Contact

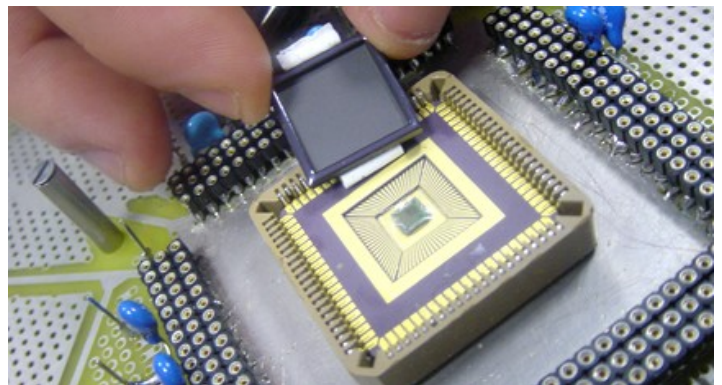
If you have any course queries, please
contact Suzanne O'Hare on 01506
469303 or by emailing
suzanne.ohare@sli-institute.ac.uk.

Course Aims

This two day course is an extension to the Introduction course, this master class covers advanced methods in control and modelling of power converters.

Who Should Attend

This intensive short course is aimed at circuit and system design engineers and managers. Delegates who attended the "Introduction to dc-dc converters" would also benefit from this advanced course.



Course Content

Day one

Higher -order Converters

- Two-inductor/two-capacitor converters
- Converters with tapped coupled inductors
- Multiphase converters with coupled inductors
- Quadratic converters

Control Topics

- Advanced/enhanced ripple regulators
- Current-mode control variations, charge control, power-equalizing control
- Feedforward control (input voltage feedforward, output current feedforward, capacitor current control, power-equalising control)
- Frequency stabilisation of free-running converters

Day two

Control Topics continued.

- Adaptive power management techniques (control for high efficiency at light load, dynamic voltage scaling, adaptive voltage positioning)
- Current balancing and thermal balancing of paralleled/multi-phased converters
- Digital control of dc - dc converters (digital power management vs. digital loop control, theoretical introduction to discrete-time systems, ADC and digital PWM, practical considerations)

Modelling Topics

- Modelling current-mode controlled converters
- Modelling multi-phased converters
- Input-filter or output post-filter and converter interaction
- Behavioural modelling of converters systems

Presenter

Richard Redl is a consultant in power electronics with 40 years of professional experience. His specialties include dc-dc converters, off-line switching power supplies, power-factor correctors, electronic ballasts, electromagnetic compatibility, and power supply control IC architectures. Dr. Redl is co-author of a book on dynamic analysis of dc-dc converters, has more than one hundred publications in IEEE journals, conference proceedings, and technical magazines, presented about hundred seminars and short courses at various venues, and has been granted twenty-two patents. He is a Fellow of the IEEE.



Fees

Fees cover tuition, course notes, lunches and light refreshments.

Accommodation

Information on local hotels is available from Amanda Connelly amanda.connelly@sli-institute.ac.uk.

Cancellations

A 10% administration fee is levied for cancellations made up to two weeks prior to the start of the course. Cancellations thereafter will be liable to the loss of the full fee. Substitutions may be made at any time up until the start of the course.

Mentor Graphics Customers Only:

Cancellations made up to two weeks prior to the start of the course will result in a 1 token per booked place charge. Cancellations thereafter will be liable for full token fees. Substitutions may be made at any time up until the start of the course.

The Institute reserves the right to cancel an advertised course at short notice or to postpone or make such alterations to the content of a course as may be necessary. If a course is cancelled, fees will be refunded in full.