STEINBEIS-TRANSFERZENTRUM PROZESSKONTROLLE UND DATENANALYSE
STEINBEIS-TRANSFER-INSTITUT MULTIVARIATE DATENANALYSE

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Pre-Conference Course at EuroPACT 2011

Tuesday, April 26, 14:00 - 17:30 h

Design of Experiments (DoE) for Product and Process Optimization

Searching for new products or improving existing processes involves changing large numbers of controlled variables to find optimal process conditions which meet all specifications at minimal cost. This can be accomplished efficiently by doing Experimental Design. The workshop teaches you how to find the most important factors you need to focus on and how to set up the experiments to discover previously unknown interactions, which too often misled you by ignoring them. Learn how to use statistical methods to give you confidence in your findings. Statistical Design of Experiments is a key to success with a minimum number of experiments.

Contents:

- How and when design of experiments should be used
- The basics of Screening designs: Full Factorial designs, Fractional Designs
- Exploitation of factorial designs
- Discover and calculation of hidden interactions
- Statistical interpretation of the results with analysis of variance (ANOVA)
- Robustness testing
- What to do after screening?
- Optimisation designs: Central Composite Designs, Box Behnken Designs