

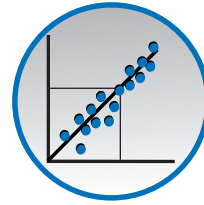
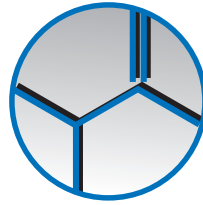
A hand from the right side of the frame points towards the word "TRAINING". The word is rendered in a bold, white, sans-serif font and is centered within a glowing blue circular graphic. This graphic is surrounded by a complex network of blue lines, dots, and gear-like shapes, all set against a dark blue background with a bokeh effect of light spots.

TRAINING

KNOWLEDGE THAT MAKES A DIFFERENCE

BRUKER OPTICS TRAINING COURSES

Detailed information on the course offer



FT-IR/NIR- and Raman-Spectroscopy

The fast progress in the fields of analytics and R&D requires the knowledge of the current methods of the IR spectroscopy and its latest developments.

Next to on-site individual customer trainings Bruker Optics performs for almost 30 years international customer training courses.

You learn the functionality of the Mid-IR, Near-IR and Raman spectroscopy under expert guidance as well as how to use it with different and optimized measurement techniques.



Bruker Optics headquarter
in Ettlingen, Germany.

NIR Training Courses

■ OPUS Basic Course NIR Applications & OPUS/LAB & OPUS/TANGO

The course is aimed at all users who have little experience with the spectroscopy software OPUS. Special attention is paid to the requirements of users who use near-infrared spectroscopy as an analysis method in the laboratory, i.e. only the functions relevant to NIR spectroscopy are taken into account.

- ◆ NIR spectroscopy
 - Measurement Techniques
 - Measuring accessories
 - Applications
- ◆ Introduction to OPUS
 - Controls
 - Load and display spectra
 - Explanation of the measurement menus
- ◆ Simple spectrum editing functions (e.g. normalization, derivation)
- ◆ User management
 - Setting up users
 - Creating an user interface
 - GMP-compliant work
- ◆ Routine measurements with OPUS/LAB
 - Configuration of OPUS/LAB
 - Routine measurements
 - Reports
- ◆ Routine measurements with OPUS/TANGO
 - Configuration of OPUS/TANGO
 - Routine measurements
 - Reports
 - Import / export of products (.OPX) and spectra

■ Basic Course Quantitative Analysis

The practical course on the OPUS/QUANT software package is aimed at all users who have little experience with chemometric analysis methods. The course provides an easy-to-understand introduction to the theory of multivariate calibration. Using a selection of practical NIR examples, the handling of the OPUS/QUANT software is demonstrated.

- ◆ Quantitative Analysis
 - Basics
 - Sample selection
 - Influence of the reference analysis
- ◆ OPUS/QUANT
 - Creation of a QUANT method
 - Calibration and optimization
 - Validation
 - Display and plot of calibration results
 - Quantitative Analysis
- ◆ QUANT examples

■ Qualitative Analysis with IDENT

The basics of spectrum identification and the possibilities of the IDENT software are explained using practice-oriented examples - primarily NIR worked out together. The participants learn to set up and validate multi-level IDENT libraries.

- ◆ Basics
 - Spectra comparison
 - Data pre-treatment
 - IDENT algorithms
 - Factorization
- ◆ OPUS/IDENT software
 - Identity Verification
 - Library structure
 - Validation
- ◆ Practical applications of the OPUS/IDENT software
 - Raw material testing
- ◆ Demonstration of IDENT examples

■ Process Software CMET

The course deals with the functions of CMET fundamentally and shows the possibilities of this software package with examples of increasing complexity. The integration of communication interfaces such as 4-20mA, Profibus DP, Modbus and OPC will also be shown.

- ◆ Design and structure of CMET
- ◆ Creation of scenarios, integration of evaluation methods
- ◆ Process control and communication with the process control system
- ◆ Trend Charts

■ Advanced Course Quantitative Analysis

This course is for experienced users only.

Users who have basic chemometric knowledge and have already gained practical experience in creating quantitative methods with QUANT (PLS). Using selected examples, in-depth knowledge of the functions of the QUANT software as well as strategies for setting up robust calibrations are conveyed.

- ◆ Quantitative Analysis
 - In-depth theory
 - Method development strategies
 - Robustness of calibration models
- ◆ OPUS/QUANT
 - Optimization of QUANT methods
 - Special functions
- ◆ Demonstration of QUANT examples

