Training Agenda 2019

Seminars, Courses and Webinars

Introduction
Our expertise at your service

We have always believed that information represents an important key to success for both individual and professional growth.
Learning, updating, and increasing one's knowledge are fundamental activities to guarantee a better competence, productivity and development.

For this reason, BUCHI promotes a high quality training program, aimed at all users and professional technicians, to improve process knowledge, make the most of the performance of the instruments and gain efficiency.

In order to meet the specific needs of the market, BUCHI offers different types of training classes: from basic and advaced user trainings on different topics, to web based courses.

During these events, our experts and product specialists will show you all the functionalities of the tools, providing you with all the information needed to use them to their full potential.

Discover our training offer for the year 2019 designed for you, to encourage your professional growth and optimize your daily work, in compliance with our corporate claim "Quality in your hands".

Markus Metzler
Head Global Training

Trainings 2019
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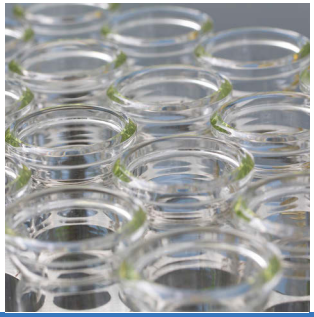
BASIC USER TRAININGS



Basic User Training Kjeldahl

This course provides basic theoretical knowledge about the Kjeldahl method and the influence of method parameters on time, costs and results. Additionally, you will learn to optimize the whole workflow to obtain perfect results and to save time, chemicals and costs. In the practical part we train you on the whole workflow on the high-end instruments, from sample preparation and digestion using K-449 and K-415 to distillation, titration and result management using K-375/377.

- Basic theory about Kjeldahl method
- Workflow optimization for perfect results and to save time and costs
- Prepare blanks, reference substances and samples
- Prepare BUCHI units K-415, K-449, K-375, K-376/377
- Hands-on on the whole workflow: digestion, distillation, titration, result management
- Basic maintenance on BUCHI units K-415, K-449, K-375, K-376/377
- Certificate

Duration: 1 day
Registration fee first participant: CHF 500
Registration fee further participant: CHF 150

Date & Location

Flawil April 24, 2019
Flawil October 16, 2019

After this training, you will be able to:

- understand the theoretical background of Kjeldahl
- understand the workflow of Kjeldahl

ADVANCED USER TRAININGS

Advanced User Training Kjeldahl

In this training, you will deepen your knowledge about Kjeldahl and alternative nitrogen determination methods, too. In the practical part, you will do a determination of ammonium, nitrate (Devarda method and salicylic acid digestion) and organic nitrogen (Kjeldahl) in a sample. You will experience the functionality of the software KjelLink for the KjelMaster K-375. Data import / export and creating reports will become routine. We will also have a look on the basic maintenance of all BUCHI Kjeldahl units.

- Advanced theory of the Kjeldahl method and nitrogen determination using Devarda and salicylic acid digestion for inorganic nitrogen compounds
- Troubleshooting Kjeldahl method
- Hands-on determination of ammonium, nitrate (Devarda method and salicylic acid digestion) and organic nitrogen in a sample
- KjelLink for the KjelMaster K-375: Functionality of the software, data import / export, creating reports
- Basic maintenance on BUCHI units K-415, K-449, K-375, K-376/377. On request: K-350, K-355, K-360
- Certificate

Duration: 1 day
Registration fee first participant: CHF 700
Registration fee further participant: CHF 200

Date & Location

Flawil	April 25, 2019
Flawil	October 17, 2019

After this training, you will be able to:

- troubleshoot common Kjeldahl problems
- optimize your workflow to obtain perfect results and save time and chemicals
- understand other methods to measure nitrogen from different sources (nitrates, ammonium)
- manage your data on the KjelMaster K-375 using KjelLink and your PC
- do basic maintenance on the KjelDigester, Scrubber and KjelMaster

Advanced User Training Spray Drying & Encapsulation

The advanced spray drying & encapsulation training is designed to give you a theoretical and practical overview of those two techniques. Topics such as how to start and optimize a process, particle engineering, scale up and troubleshooting will be discussed. Hands-on sessions will then illustrate the theoretical part and give you a feeling of the different instruments. Demo samples will be available for the training, however customer samples can also be discussed to help you find the ideal solution for your specific process.

- Basics of Spray Drying and Encapsulation
- Selection of encapsulation strategy
- Spray Drying of samples with unknown behavior
- Process optimization
- Trouble-shooting
- Hands-on training on the Spray Dryers and Encapsulator with demo substances
- Particle engineering
- Spray Drying scale-up
- Open points, discussion, feedback
- Certificate

Duration: 2 days
Registration fee first participant: CHF 1100
Registration fee further participant: CHF 350

Date and Location

Flawil October 30/31, 2019

After this training, you will be able to:

- optimize the spray drying process
- understand the method encapsulation
- know the theory of particle formation
- know about basic trouble shooting

Advanced User Training Drying

The Advanced User Training Drying is designed to help you understand and find the right drying solution. To that end, theoretical background, limitations and scaling-up issues and practical application will be given in three drying methods, i.e. Freeze-Drying, Spray Drying and Rotary Evaporation.

- Basics and physical background of Freeze-Drying, Rotary Evaporation and Spray Drying
- Freeze Drying theory and hands-on training with sample preparation
- Rotary Evaporation
- Spray Drying theory and hands-on
- Costumer samples
- Discussion: Selecting the right techniques
- Applications/Limitations
- Up-scaling (Issues/How to)
- Open questions/Tips and Tricks/Maintenance
- Certificate

Duration: 2 days
Registration fee first participant: CHF 1100
Registration fee further participant: CHF 350

Date & Location

Flawil June 19/20, 2019

After this training, you will be able to:

- know and understand fields of applications of different drying methods
- choose the right drying techniques
- get a basic idea of physical background of drying processes

Advanced User Training Natural Products

In the Natural Products training we will have a look into common workflows for natural products. The training covers techniques like evaporation, chromatography, drying and encapsulation.

- Overview of workflow and examples of applications
- Extraction of active compounds
- Concentration / preparation for chromatography
- Chromatography theory
- Chromatography Hands-on
- Fraction concentration
- Formulation of extracted and purified samples
- Spray Drying and encapsulation theory
- Hands-on
- Certificate

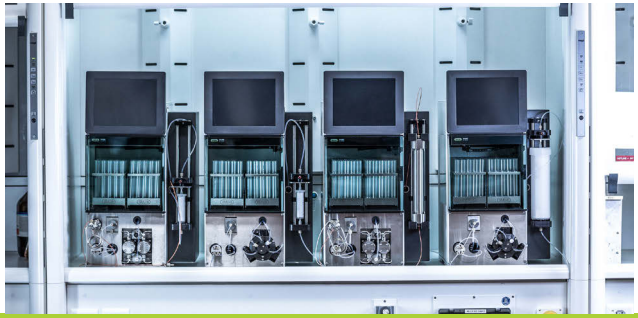
Duration: 3 days
Registration fee first participant: CHF 1100
Registration fee further participant: CHF 350

Date & Location

Flawil July 2 - 4, 2019

After this training, you will be able to:

- grow skills in different techniques and get an overview of different work flows



Advanced User Training Chromatography

The advanced chromatography training is designed to help you get the most out of your preparative chromatography system. We will discuss how to optimize separations for speed and purity, how to choose the right detection method, and how to take good care of your system. Besides this you have the possibility to bring customer samples, that we can find the right solution for your specific separation problem.

- Advanced theory of chromatography (preparative application)
- Choosing solvent systems and optimizing gradients
- Choosing the right column size and material
- Hands-on optimizing settings
- Optimizing detection
- Running customer samples
- FAQ's and failure handling
- Basic maintenance
- Certificate

Duration: 2 days
Registration fee first participant: CHF 1100
Registration fee further participant: CHF 350

Date & Location

Flawil May 8/9, 2019
Flawil October 23/24, 2019

After this training, you will be able to:

- develop and optimize preparative chromatography methods on flash & prep devices

Advanced User Training Cell Encapsulation

The training provides an introduction to cell encapsulation and mammalian cell microencapsulation and will be enriched through practical sessions.

- Defining microcapsules and micro-beads
- Materials for encapsulation
- Why encapsulating cells
- Culturing and preparing animal cells for encapsulation, cell type, media, reagents, conditions, etc
- Production of microcapsules (SOP)
- Microcapsules culture
- Microcapsules and culture characterization
- Trouble shooting, Tips and Trick

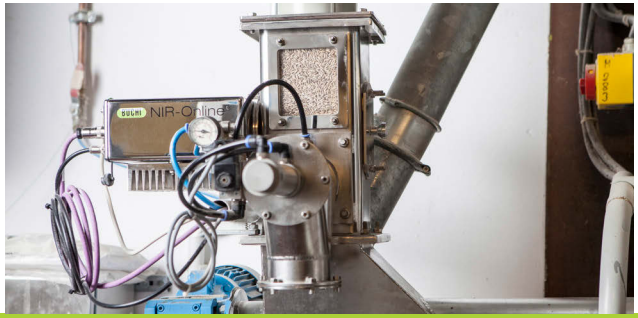
Practical sessions:
- Setting up and operating the B-395 Pro (non-sterile)
- Preparation of reagents and materials (micro beads production)
- Setting and establishing optimal parameters for production
- Production of Ca-Alg beads using the Encapsulator
- Preparation of the Encapsulator for sterile operation
- Encapsulation of cells within alginate beads
- How to remove cells from alginate beads / PLL Alg beads

- Certificate

Duration: 2 days
Registration fee first participant: CHF 1100
Registration fee further participant: CHF 350

Date & Location
on request

After this training, you will be able to:
- use and set up vibration technology Encapsulator in non-sterile and sterile conditions



NIR-Online Training

The training enables you to run BUCHI NIROnline System and makes you familiar with data management.

Operator Training
- Product basics
- Benefits of process analysis
- SX-Suite overview, modules
- SX-Server
- SX-Center
- Autocal Data structure

Administrator Training
- Autocal exercises
- SX-Center
- Advanced features

- Certificate

Duration: 1 day
Registration fee first participant: CHF 1250
Registration fee further participant: CHF 450

Date & Location

Flawil	February 18, 2019
Flawil	November 04, 2019

After this training, you will be able to:
- understand process analysis
- understand the NIR-Online measurement principle
- do NIR-Online measurements
- interpret data structure

ProxiMate (NIR) Training

The training will help you to use your ProxiMate to its fullest potential.

Instrument architecture
- Hardware overview
- Instrument options and accessories

Operator Training
- Working with precalibrated applications
- Color measurements theory and practical

Administrator Training
- White reference calibration
- Application setup

Calibration updates with AutoCal
- Interaction with NIRWise Plus
- Basic service and system tasks
- Reports

- Certificate

Duration: 1 day
Registration fee first participant: CHF 1250
Registration fee further participant: CHF 450

Date & Location

Flawil	February 18, 2019
Flawil	November 04, 2019

After this training, you will be able to:
- set up the instrument
- use the application
- perform measurements
- manage the software
- update calibrations

NIR-Online / ProxiMate Calibration Training

In this calibration training you will be taught how to use the calibrattion software solutions for both BUCHI NIR-Online and BUCHI ProxiMate.

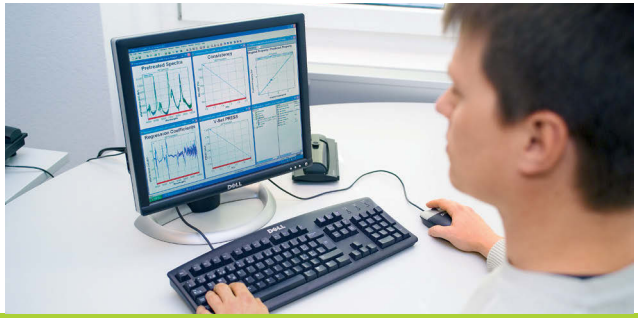
SX Plus/ NIRWise Plus
- User interface
- Calibration development and maintenance
- Method validation data transfer from N-500/NIRMaster/Proximate and other NIR devices
- Working on application examples
- Certificate

Duration: 1 day
Registration fee first participant: CHF 1250
Registration fee further participant: CHF 450

Date & Location

Flawil February 19, 2019
Flawil November 05, 2019

After this training, you will be able to:
- develop and optimize calibrations and transfer data from different devices



NIR Qualitative Calibration Training

The training is designed to enable you to perform proper identification of your substances.

- Theoretical background of CLU and PCA analysis
- CLU analysis in NIRCal
- Creating CLU calibration using Calibration Wizard
- Creating CLU calibration using NIRCal Explorer
- Interpreting CLU calibrations
- CLU calibration protocol
- Application settings adjustment for identification
- Sample preparation and presentation
- Different hardware configurations
- Interpreting the quality of the spectra/measurement result
- SOP for the calibration extension process
- Practical exercises
- Certificate
- Requires Web Based Training to be completed prior to registration

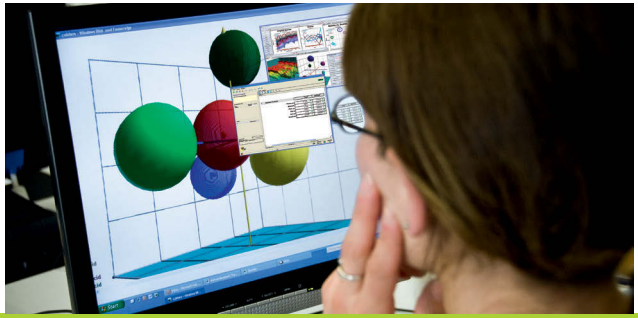
Duration: 1.5 days
Registration fee first participant: CHF 1500
Registration fee further participant: CHF 650

Date & Location

Flawil February 20/21, 2019
Flawil November 6/7, 2019

After this training, you will be able to:

- develop, validate and interpret CLU calibration models
- set application parameters
- do sample preparation
- know different measurement configurations and modes
- judge the quality of the spectra
- do reproducible measurements
- apply procedure for updating/extending cluster calibration



NIR Quantitative Calibration Training

The training is designed to enable you to properly quantify the parameters of your substances.

- Theoretical background of quantitative modeling
- Develop, validate and interpret quantitative calibration models
- Validation set and cross-validation
- Calibration Wizard, Calibration Toolbox and NIRCal Explorer
- Statistical figures of merit
- Calibration and prediction protocols
- Application settings adjustment for quantification
- Sample preparation and presentation
- Different hardware configurations
- Interpreting the quality of the spectra/measurement result
- SOP for the calibration extension process
- Practical exercises
- Certificate
- Requires Web Based Training to be completed prior to registration

Duration: 1.5 days
Registration fee first participant: CHF 1500
Registration fee further participant: CHF 650

Date & Location

Flawil February 21/22, 2019
Flawil November 7/8, 2019

After this training, you will be able to:

- develop, validate and interpret quantitative calibration models
- set application parameters
- do sample preparation
- know different measurement configurations and modes
- judge the quality of the spectra
- do reproducible measurements
- apply procedure for updating/extending quantitative calibration

WEB BASED TRAININGS

Web Based Training (WBT) NIR Basics

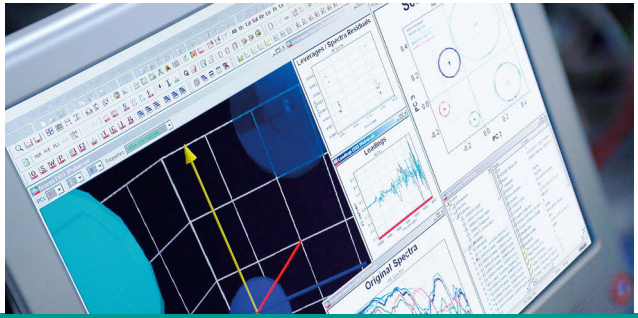
The Web Based Training provides basic information about NIR technology and spectroscopy.
It shows possibilities how you can measure with NIR and what kind of samples can be analyzed.

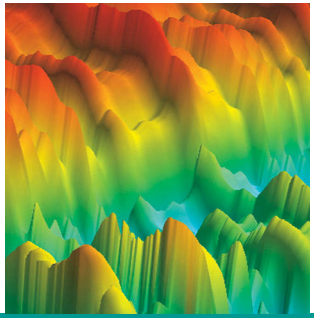
- Basics of spectroscopy
- Fundamentals of near-infrared spectroscopy
- NIR technology overview
- Measurement principles
- BUCHI FT-NIR technology
- Polarization interferometry
- Software overview
- Prerequisite for Quantitative or Qualitative Calibration Training
- Certificate

Duration: approx. 1.5 hours
Registration fee: 300 CHF

Date & Location
Available online

After this training, you will be able to:
- understand the physical background of NIR spectroscopy
- understand the technology implemented in BUCHI NIRSolutions
- distinguish users and user groups





Web Based Training (WBT) Chemometrics

This Web Based Training provides basic information about mathematical and statistical methods applied in a chemometric software.

- Principal component analysis
- Multiple linear regression
- Principal component regression
- Partial Least Squares
- Figures of merit within the calibration model
- How to judge calibration model quality/validity
- Prerequisite for Quantitative or Qualitative Calibration Training
- Certificate

Duration: approx. 1 hour
Registration fee: 200 CHF

Date & Location
Available online

After this training, you will be able to:
- understand the background of the algorithms applied in NIRCal
- understand the associated statistics
- understand the regression methods
- do a basic data/model interpretation

Training Agenda 2019
Calendar

January

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July

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August

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September

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October

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December

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Training 2019
Registration Form

Fill in the following registration form and send it by e-mail to training@buchi.com

Select the Training you would like to attend:

- ☐ BUT Kjeldahl
- ☐ AUT Spray Drying & Encapsulation
- ☐ AUT Drying
- ☐ AUT Natural Products
- ☐ AUT Chromatography
- ☐ AUT Kjeldahl
- ☐ AUT Cell Encapsulation
- ☐ NIR Online
- ☐ ProxiMate (NIR)
- ☐ NIR-Online/ProxiMate Calibration
- ☐ NIR Qualitative Calibration
- ☐ NIR Quantitative Calibration
- ☐ WBT Chemometrics
- ☐ WBT NIR Basics

Participant:

First Name _____ Last Name _____

Company _____

Address _____

City _____ Zip Code _____

Phone _____ Mobile _____

E-mail _____

Industry:

- ☐ Pharma
  - ☐ Biotechnology
  - ☐ Cosmetics
  - ☐ Natural Products / Nutraceuticals
  - ☐ Standard Drugs
- ☐ Environment
  - ☐ Air
  - ☐ Soil/Sludge/Sediment
  - ☐ Waste
  - ☐ Waste Water
- ☐ Chemistry
  - ☐ Basic Chemicals
  - ☐ Biofuels
  - ☐ Fine/Specialty Chemicals
  - ☐ Flavour/Fragrances
  - ☐ Material Science
  - ☐ Petrochemicals
  - ☐ Polymers
- ☐ Feed
  - ☐ Aqua
  - ☐ Fram Animal
  - ☐ Pet
- ☐ Food & Beverages
  - ☐ Agricultural Products
  - ☐ Bakery/Confectionery
  - ☐ Beverages
  - ☐ Dairy
  - ☐ Meat and Seafood
  - ☐ Oil /Fats
  - ☐ Ready Meals and Packaging
- ☐ Other
  - ☐ Forensic Laboratories
  - ☐ Testing
  - ☐ Other _____

Signature _____ Date _____

Quality in your hands

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