

Customer Training 2010

DFS

Training Courses 2010

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1. General Information

Thermo Fisher Scientific offers a number of training courses throughout the year for advanced mass spectrometry product systems, peripherals and software. The courses are designed to suit the requirements of beginners and advanced operators. In order to get the most from your system, we would like to encourage you to take advantage of getting in-depth knowledge of the instrument and technology from our highly experienced application specialists. Certificates are provided upon completion of the training.

Scheduled training courses take place at our Application Laboratory at

Thermo Fisher Scientific (Bremen) GmbH
Hanna-Kunath-Str. 11
28199 Bremen
Germany

Each course requires a minimum of three participants, but each group will not exceed a maximum of six participants. The training course language will be English unless specified otherwise.

For **training fees** please contact your local Thermo Fisher Scientific sales representative. The training fees include catering during training session (two coffee breaks and lunch). The training fees do not include individual travel costs, hotel accommodation or per diem expenses. However, we offer to arrange your hotel accommodation in Bremen. Preferably, we book our training guests into the Holiday Inn Express Bremen Airport, which is conveniently located next to our facilities, in walking distance of the airport (6 minutes) and 15 minutes by tram from the main railway station. Our preferred rate of 81 € includes breakfast and internet access.

Registration deadline is six weeks prior to scheduled dates. For registration please use our registration form. You can also register online at <http://training.thermo-bremen.com>

In case of **cancellation** we strongly recommend to nominate a substitute if possible. Cancellation prior to registration deadline is possible. Cancellations two weeks prior to scheduled courses are subject to a 50 % cancellation fee. Cancellations a week prior to scheduled courses are subject to a 90 % cancellation fee.

Training courses may be rescheduled or cancelled due to a lack of participants or other reasons. Already registered attendees will be informed as soon as possible.

On-site training Thermo Fisher Scientific can also conduct the training courses at your facilities. The on-site training courses will be customized according to your instrument(s), software and application requirement(s). Your own instrument(s) will be used to train operation and maintenance procedures.

“On-site training for LTQ Orbitrap and LTQ FT Ultra systems is provided by the European Training Institute. For additional information please contact: euro.training.hemel@thermo.com”

Training upon request: Training courses with a very special content will be held upon request only.

Visa Formalities: Please check whether you will need a visa for Germany. In case you do, please fill in the form below to enable Thermo Fisher Scientific (Bremen) GmbH to issue the visa invitation letter.

Please fax to No. +49 421 54 93 396 Customer Training

Last name (surname):	
First name(s) (given name(s)):	
Title:	
Gender (male / female)	
Date of birth DD - month (in letters) - YYYY	
Number of passport:	
Period of stay, including travel times:	
Correct and complete name and address of customer's company or institute, including telephone and fax numbers (no postbox):	
Correct and complete address of the embassy where to apply for visa, including telephone and fax numbers:	
Correct and complete address (including contact person) of where the originals of the invitation letters shall be sent by courier, including telephone and fax numbers:	

2. Organic Mass Spectrometer

Thermo Fisher Scientific offers a variety of training courses to suit your requirements when using the DFS.

Training Courses 2010:	
DFS qualitative analysis 4-day operator training	22.02. – 25.02.2010
DFS target compound analysis 4-day operator training	08.11. – 11.11.2010
Individual training available upon request	

Training Sessions:

	4-day operator training
Monday	10:00 – 17:00
Tuesday	09:30 – 17:00
Wednesday	09:30 – 17:00
Thursday	09:30 – 14:00

2.1 DFS Qualitative Analysis

Course Outline

The general objective of the DFS qualitative analysis trainings course is to introduce to qualitative operation techniques. It will familiarize users with the instrument features, basic instrument operations, covering tuning of the ion source, direct evaporation, GC/MS and chemical ionization as well as preventive maintenance. Please note that techniques like ESI, FAB etc. are not covered in this trainings course.

Participants' profile: Basic understanding of gas chromatography (GC) and mass spectrometry (MS). Experience in the field of high resolution MS is helpful.

Course language: English

General Introduction to MS and the “Hardware” of the DFS

- DFS instrument geometry
- Double focussing
- Vacuum system

TunePlus Source Tuning

- Manual
- Automatic
- Resolution adjustment
- EI and CI ionization modes

Calibration

- Mass scale calibration magnetic
- Mass scale calibration electric

Exact Mass Measurements

- Peak matching
- Electric scanning
- Magnetic scanning

DI Evaporation and Data Evaluation

- Control and measurement
- Data acquisition
- Centroid and profile data

GC-MS in EI Mode

- Data acquisition
- Xcalibur data evaluation
- Qual Browser; Library Browser
- Elemental composition calculation
- Isotope pattern simulation

2.2 DFS Target Compound Analysis Course Outline

The general objective of the DFS target compound analysis course is to introduce to quantitative GC/HRMS techniques using the example of dioxin/furan analysis. It will familiarize users with the operational techniques and data evaluation procedures needed for high resolution GC/MS MID methods for isotope dilution techniques, exemplary following EPA method 1613 for the analysis of Dioxins/Furans.

Participants' profile: For this course, knowledge of EPA method 1613 or equivalent methods is required as well as proficient understanding of mass spectrometry (MS). The participants should have experience in the field of chromatographic analysis, especially in gas chromatography.

Course language: English

Introduction into the “Hardware” and Basics of the DFS and general HRMS

- DFS instrument geometry

Instrument Setup for “Dioxin” Analysis

- Instrument tuning for resolution and optimum sensitivity
- Instrument checks
- Magnetic and electric calibration
- Multiplier gain calibration

MID (Multiple Ion Detection)

- Theory of multiple ion detection
- LOCKMASS technique
- Setting up and optimize lock mass MID
- Data acquisition
- Checks and troubleshooting

Data Evaluation

- Chromatogram review in QualBrowser
- Using the Signal-to-noise program

- Target compound quantification
 - Setting up templates
 - Creating calibration curves
 - Manual and automatic data processing
 - Creating reports for quantification results

- Generating reports using the Reporter application

2.3 Registration Form

Organic Mass Spectrometer Operator Training (DFS)

Please mail this form to training.bremen@thermo.com
or fax it to our office at ++49 (0)421 54 93 396. Thank you!

<p>Participant</p> <p>Family name: First name: Title: Company/Institute:</p> <p>Address (street): Postal code: City / State: Country: Phone: Fax: E-Mail:</p>	<p>Training Course</p> <p>Course Name: Date:</p> <p>Accommodation</p> <p>Hotel reservation Yes <input type="checkbox"/> No <input type="checkbox"/> Smoking Non-smoking At Holiday Inn Express Bremen Airport (81 € including breakfast and internet access) Other (please specify price range / location)</p> <p>Date of Arrival: Date of Departure:</p>
<p>Instrument type(s)</p> <p>_____</p> <p>Service number (if known): S/N _____</p> <p>We use the following GC Type</p> <p>_____</p> <p>Our main application is</p> <p>_____</p>	<p>Software, you are using</p> <p>Tuneplus version no. _____ Targetquan version no. _____ Xcalibur version no. _____ FT-Programs version no. _____</p>

Date _____

Signature _____

3. Customer Operator Trainings 2010

Instruments	Training Course	Dates
ICP-MS / GD-MS XSERIES 2	XSERIES Operator Training	09.03. – 12.03.2010 08.06. – 11.06.2010 26.10. – 29.10.2010
ELEMENT ELEMENT 2 ELEMENT XR	ELEMENT2 / ELEMENT XR Operator Training German Language Training	01.02. – 05.02.2010 06.09. – 10.09.2010 22.11. – 26.11.2010 03.05. – 07.05.2010
ELEMENT GD	ELEMENT GD Operator Training	12.04. – 16.04.2010
Thermal Ionization Mass Spectrometer TRITON	TRITON Basic Operator Training TRITON 3 day Lab Manager Training	22.02. – 26.02.2010 25.10. – 29.10.2010 upon request
Multicollector ICP-MS NEPTUNE	NEPTUNE Basic Operator Training NEPTUNE 3 day Lab Manager Training	18.01. – 22.01.2010 18.10. – 22.10.2010 upon request
Organic Mass Spectrometers LTQ FT Ultra LTQ Orbitrap XL LTQ Orbitrap Discovery	These trainings will be organized by the European Training Institute ETI. For more information please contact: euro.training.hemel@thermofisher.com OR catherine.lemardele@thermofisher.com Individual training available upon request.	
DFS	Operator Training	22.02. – 25.02.2010 08.11. – 11.11.2010

3. Training Schedule 2010 - continued

Instruments	Training Course	Dates
Isotope Ratio Mass Spectrometers DELTA Series MAT 253 / MAT 252	GB-EA: ConFlo III/IV and Elemental Analyzer and TC/EA Peripherals, GasBench II	15.02. – 19.02.2010
	GC-EA: GC IsoLink, ConFlo III/IV and Elemental Analyzer and TC/EA Peripherals	08.02. – 12.02.2010
	GC-LC: LC IsoLink , GC IsoLink	08.02. – 12.02.2010
	GC (GC/C III Interface): GC/C III Interface and Peripherals	15.02. – 17.02.2010
	GB-GC: GC IsoLink, ConFlo III/IV and GasBench II	14.06. – 18.06.2010
	EA-GC: Elemental Analyzer and TC/EA Peripherals and GC IsoLink, ConFlo III/IV	14.06. – 18.06.2010
	Dual Inlet: Dual Inlet and Peripherals / 3-day operator course	15.11. – 17.11.2010
	GB-EA: GasBench II, ConFlo III/IV and Elemental Analyzer and TC/EA Peripherals	08.11. – 12.11.2010
	EA-GC: GC IsoLink, ConFlo III/IV and Elemental Analyzer and TC/EA Peripherals	01.11. – 05.11.2010
	LC-GC: LC IsoLink and GC IsoLink	01.11. – 05.11.2010
	GC (GC/C III Interface): GC/C III Interface and Peripherals	15.11. – 17.11.2010
Isodat Workshop Basic Software Training Advanced Software Training, Hardware programming	upon request	