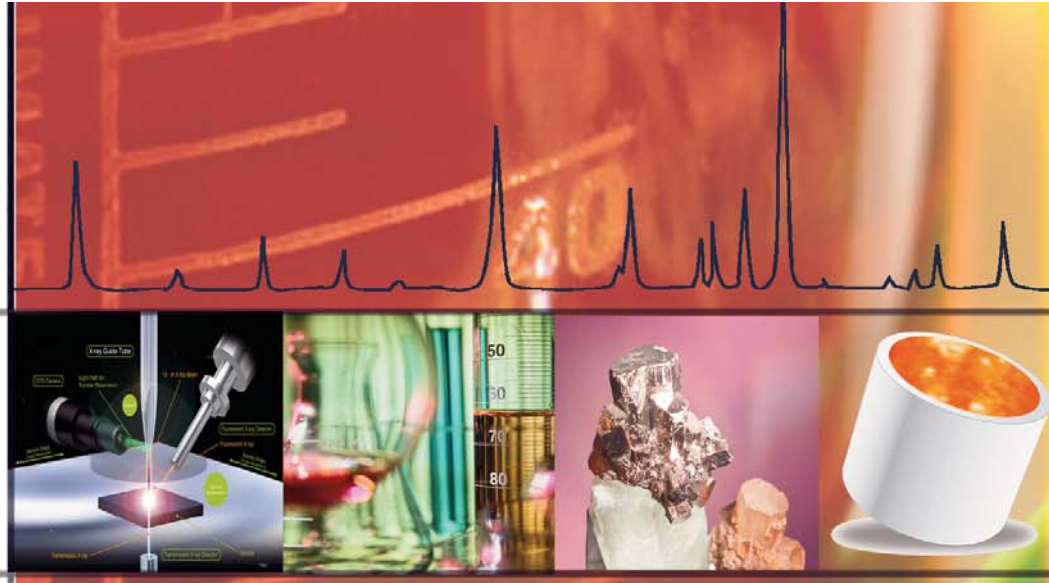
HORIBA
Scientific



2010 Training

HORIBA Scientific
Industry Division

Planning
Course Description

2010 Training Courses

HORIBA Scientific offers many types of training courses designed according to your particular requirements:

• **Training on-site,** performed by one of our HORIBA Scientific application chemists:

Training on-site will permit you to learn about the basics of the technique for your instrument: theory, use of the software, analytical methodology for your sample analysis requirements on the instrument.

The analytical assistance will help you to optimize the development for the validation of your methods for your specific applications: optimise operating conditions, study of possible analytical problems and how to correct them.

• **Specialised courses:** for deep knowledge in a particular subject and at the same time exchanging your experience and ideas with HORIBA Scientific specialists and other users of the technique.

• **Training course in our approved HORIBA Scientific training centre:** learn and share your experience with other users and acquire the basics of the technique. For example, in ICP, ½ day for theory, use of the software, learn the different analysis aspects: method creation, background correction, calibration, quantitative analysis… and 3 days for "hands-on" practice. You will be able to directly use this knowledge for your applications in your own laboratory.

Certificates given to every attendee for every course

Analytical Assistance, on-site training

Receive the support from an analyst to optimise your analytical methods (correct wavelengths, sensitivity, precision, speed, accuracy...).

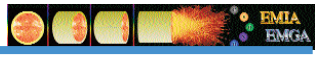
This assistance is done by one of our Application Chemists. Contact us for a customised program.

AssisanaAnalytical Assistance

Registration fees 1,470 € HT per day, living and travelling expenses not included.

In our Training Center

EMIA/EMGA/SLFA/XGT WR



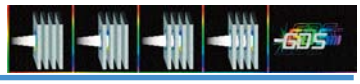
HOR1 **EMIA User training courses, Duration 1 day**
Registration fees: 680 € HT **September 28th, 2010**

HOR2 **EMGA User training courses, Duration 1 day**
Registration fees: 680 € HT **September 29th, 2010**

HOR3 **SLFA User training courses, Duration 1 day**
Registration fees: 680 € HT **September 30th, 2010**

HOR4 **XGT WR User training courses, Duration 1 day**
Registration fees: 680 € HT **October 1st, 2010**

Glow Discharge Spectrometry



GD1 **User training courses, Level 1, Duration 4.5 days**
From Monday 9:00 am to Friday 12:00 am
Registration fees: 3,500 € HT
April 19th to 23th 2010
November 22th to 26th, 2010

Spark

Sp **User training courses, Duration 2 days**
On demand

ICP

Pl1 **User training courses for ACTIVA™, Duration 3.5 days**
From Monday 9:00 am to Thursday 12:00 am
Registration fees: 2,400 € HT
April 12th to 15th, 2010 **October 18th to 21th, 2010**

Pl2 **User training courses for ICP (excluded ACTIVA™ Family), Duration 3.5 days**
From Monday 9:00 am to Thursday 12:00 am
Registration fees: 2,400 € HT
February 15th to 18th, 2010 **June 21st to 24th, 2010**
September 20th to 23th, 2010

Particle Size Analysis

PSA **PSA User training courses, Duration 1 day**
Registration fees: 680 € HT **November 10th, 2010**

C/S Analyser training course on a HORIBA Analyser

Duration 1 day
Price 680 €
Date September 28th, 2010

Concerned People

Users of C/S analyser, EMIA analyser

Objectives

Know how to optimise the instrumental parameters
Control of the analytical conditions
How to interpret the results obtained

Training organisation

The training is done in HORIBA Scientific laboratories
The duration of the practical work is 1 day

09:00 – 17:00

- Presentation of HORIBA Scientific instruments
- Theory of the technique
- Description of the EMIA analyser
- Leak and mechanical tests
- Use and choice of accelerators and flux
- Preparation of sample capsules
- Software presentation
- Determination of the optimal analytical conditions
- Realisation of a calibration
- First level preventive maintenance
- General analytical discussion

HORIBA Scientific

For further information, contact:
tel.: + 33 (0) 1 64 54 13 03, fax: + 33 (0)1 69 09 17 27,
SAS-eA.sci@horiba.com

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O/N/H user training course on a HORIBA Analyser

Duration 1 day
Price 680 €
Dates September 29th, 2010

Concerned People

Users of O/N/H Analyser, EMGA Analyser

Objectives

Know how to optimise the instrumental parameters
Control of the analytical conditions
How to interpret the results obtained

Training organisation

The training is done in HORIBA Scientific laboratories
The duration of the practical work is 1 day

09:00 – 17:00

- Presentation of HORIBA Scientific instruments.
- Theory of the technique
- Description of the EMGA analyser
- Leak and mechanical tests
- Use and choice of accelerators and flux
- Preparation of sample capsules
- Software presentation
- Determination of the optimal analytical conditions
- Realisation of a calibration
- First level preventive maintenance
- General analytical discussion

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Sulfur in oil user training course on a HORIBA Analyser

Duration 1 day
Price 680 €
Dates September 30th, 2010

Concerned People

Users of S in oil Analyser, SLFA Analyser

Objectives

Know how to optimise the instrumental parameters
Control of the analytical conditions
How to interpret the results obtained

Training organisation

The training is done in HORIBA Scientific laboratories
The duration of the practical work is 1 day

09:00 – 17:00

- Presentation of HORIBA Scientific instruments
- Theory of the technique
- Description of the SLFA analyser
- Preparation of sample capsules
- Software presentation
- Determination of the optimal analytical conditions
- Realisation of a calibration and interpretation of the results
- First level preventive maintenance
- General analytical discussion

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XGT user training course on a HORIBA Analyser

Duration 1 day
Price 680 €
Dates October 1st, 2010

Concerned People

Users of XGT Analyser

Aim

Know how to optimise the instrumental parameters
Control of the analytical conditions
How to interpret the results obtained

Training organisation

The training is done in HORIBA Scientific laboratories.
The duration of the practical work is 1 day.

09:00 – 17:00

- Presentation of HORIBA Scientific instruments
- Theory of the technique
- Description of the XGT analyser
- Software presentation
- Realisation of a calibration
- Identification of the different peaks in the spectra
- First level preventive maintenance
- Correction of spectral interferences
- General analytical discussion

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GDS user training courses

Duration 4.5 days

Price 3,500 €

Dates From April 19th to 23th, 2010 or from November 22nd to 26th, 2010

Concerned People

Users of HORIBA Scientific GD spectrometer

Objectives Know how to optimise the instrumental parameters
Confident use of the software
Control a bulk and a surface calibrations
Make an analysis of unknown samples
Know the accessories and when to use them
Know how to use the instrument diagnostics

Training organisation

The training is done in training room and in the laboratory
The duration of the practical works is 4 days

1st Day 09:00 – 17:00

a) Fundamentals of GD-OES (theory)
- Principle, source, optics, structure of the software, some applications
- Operational methodology
- Principles of instrument control

b) How to do an analysis in GD-OES (hands-on)
- Instrument control
- Important parameters
- Creation of an analytical method
- Optimisation for a given application
- Precautions
- Qualitative analysis
- Curve treatments

2nd Day 09:00 – 17:00

a) Principle of calibration (theory) for bulk and surface
- Sequence of measurement
- Reference materials
- Sample preparation
- Bulk analysis principles
- Surface analysis principles

b) Example of calibration (hands-on). Bulk calibration creation of an analytical program, calibration, optimisation, recalibration, Minicalibration, SPC

3rd Day: Practice 09:00 – 17:00

a) Use of the monochromator
- N+1 channel
- Image

b) Maintenance (cleaning). Lamp/lens
c) Tests of different anodes (2mm, 7mm)
d) Diagnostic tests. QC software
e) Preparation of a calibration for surface. Reference materials. Layered samples. Measurement of sputtering rates

4th Day: Practice 9:00 – 17:00

Example of surface calibration.
- Optimisation of the curves
- Recalibration
- Possible artefacts

5th Day: Theory and Practice 9:00 – 12:00

- Advanced features in the software
- Special applications
- Published papers
- Reference books and ISO standards
- Layered mode for surface calibration
- Round Table: Discussions, information. Questions/Answers

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ICP user training courses

all ICP excluding ACTIVA Family

Duration 3.5 days

Price 2,400 €

Dates From February 15th to 18th, 2010 - From June 21th to June 24th, 2010
From September 20th to 23th, 2010

Concerned People Users of ICP spectrometers with V5 software versions only

Objectives Acquire theoretical and practical knowledge on the ICP-AES technique on the HORIBA Scientific spectrometer
Learn to use the software
Learn methodology for an analytical development
Learn to use instrument diagnostics

Training organisation

The training is done in training room and in the laboratory
Duration of the theoretical part: 4 hours
Duration of the practical part: 21 hours

1st Day 09:00 – 17:00

- Theory of ICP-OES
- Description of the spectrometer HJY ICP
- Presentation of the different accessories and their application
- Presentation of the software
- What is the methodology to develop one analytical program?
- Practice of the software by several exercises (1):
  - Creation of an analytical method
  - Optimisation of the nebulisation
  - Determination of the detection limit
  - Choice of the wavelength?
  - Use of the different parameters of the software and the instrument

2nd Day 09:00 – 17:00

- Practice of the software using several exercises (2)
  - Background correction : importance and how to apply it
  - Influence of the sheath gas
  - Creation of the ' Diagnostic' Method to follow the performance of the instrument
  - Use of the « Semi-quantitative » method for the quick determination of metals in an unknown sample

3rd Day 09:00 – 17:00

- Specific Analytical methods:
  - Standard Addition
  - Inter-element correction
  - Internal standard
- Options according to customers demand (1)
  - CMA, hydride generator
  - Oil analysis
  - Chlorine Analysis
  - Image Software

4th Day 9:00 – 12:00

- Options according to customers demand (2)
  - CMA, hydride generator
  - Oil analysis
  - Chlorine Analysis
  - Image Software
- Summary of the training, discussions

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ACTIVA user training courses

Duration 3.5 days

Price 2,400 €

Dates From April 12th to 15th, 2010 or from October 18th to 21th, 2010

Concerned People Users of ACTIVA spectrometers

Objectives Acquire theoretical and practical knowledge on the ICP-AES technique on the HORIBA Scientific spectrometer
Learn to use the software
Learn methodology for an analytical development
Learn how to use the instrument diagnostics

Training organisation

The training is done in training room and in the laboratory with V5 software version only
Duration of the theoretical part: 4 hours
Duration of the practical part: 21 hours

1st Day 09:00 – 17:00

- Theory of ICP-OES
- Description of the HJY ICP spectrometer
- Presentation of the different accessories and their application
- Presentation of the software
- What is the methodology to develop one analytical program?
- Practice of the software by several exercises (1):
  - Creation of an analytical method
  - Optimisation of the nebulisation
  - Determination of the detection limit
  - Choice of the wavelength?
  - Use of the different parameters of the software and the instrument

2nd Day 09:00 – 17:00

- Practice of the software by several exercises (2)
  - Background correction : importance and how to apply
  - Influence of the sheath gas
  - Creation of the ' Diagnostic' Method to follow the performance of the instrument in the time
  - Use of the « Semi-quantitative » method for the quick determination of metals in an unknown sample

3rd Day 09:00 – 17:00

- Specific Analytical methods :
  - Standard Addition
  - Inter-element correction
  - Internal standard
- Options according to customers demand (1)
  - SOS, MASTER
  - CMA, hydride generator
  - Oil analysis
  - Chlorine Analysis
  - SMARTVIEW Software

4th Day 9:00 – 12:00

- Options according to customers demand (2)
  - SOS, MASTER
  - CMA, hydride generator
  - Oil analysis
  - Chlorine Analysis
  - SMARTVIEW Software
- Summary of the training, discussions

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Particle size analyser user training courses

Duration 1 day

Price 680 €

Dates November 10th, 2010

Concerned People Users equipped with the particle size analyser

Objectives Acquire theoretical and practical knowledge on the particle size analyser
Learn to optimise operating condition for any sample

Training organisation
The training is done in training room and in the laboratory

09:00 – 17:00

- Presentation of the HORIBA Scientific instruments
- Theory of the technique
- Description of the PSA instruments
- Software presentation
- Sampling and dispersion
- Method development
- First level maintenance
- Instrument verification
- General analytical discussion

On site training and Analytical Assistance

Duration To be mutually agreed

Dates To be mutually agreed

Registration fees
Training on site: 1,160 € HT/day Analytical assistance: 1,470 € HT/day
Living and travel expenses are not included.

Concerned People Users equipped with the HORIBA Scientific instrument

Objectives
- Meet your specific needs, by a customized training
- Practice and improve your knowledge, by taking advantage from experience of the HORIBA Scientific engineers.

Training organisation
The training is composed of theoretical and experimental hands-on work

Schedule of the training on site
We define together the program of the training beforehand
Examples: User training on ICP-AES, Use of MASTER…

Schedule of an analytical assistance (example)
Analysis and results diagnostics, operating conditions optimisation, reagents blanks, matrix matching…
Advise and operational help. Example: Analysis of majors in stainless steel, analysis of traces in water...

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For further information, contact:
tel.: + 33 (0) 1 64 54 13 03, fax: + 33 (0)1 69 09 17 27,
SAS-eA.sci@horiba.com

Registration Form

Training course:..... Date:.....

Family Name :..... First Name:.....

Company/Organisation:.....
Address:.....
.....
Phone Number:.....
FAX Number:.....
E-Mail :.....
Purchase order number:.....

Invitation letter requested: .....
if yes:

Passport number:.....
Validity of passport:.....
Date of birth:.....
Place of issue (as mentioned on the passport):.....

Accomodation:
Date of arrival at the hotel:.....
Date of departure from the hotel:.....
Additional hotel (if requested in Paris):.....

Stamp of the company Date and signature

Information

Registration: fill the form and send it back by FAX.
Registration fees: the registration fees include the training courses fees and the documentation. Transportation and living expenses **are not included.** Lunches can be taken in the HORIBA Scientific Restaurant and invoiced after the training.
Your contact: HORIBA Jobin Yvon SAS, 16-18 rue du Canal, 91165 Longjumeau, FRANCE
Tel: + 33 1 64 54 13 03 Fax: + 33 1 69 09 17 27
E-Mail: SAS-eA.fr@horiba.com

HORIBA continues contributing to the preservation of the global environement through analysis and measuring technology.

HORIBA Scientific

Certified ISO 14001 in 2009, HORIBA Scientific is engaged in the monitoring of the environmental impact of its activities during the development, manufacture, sales, installation and service of scientific instruments and optical components. Training courses include safety and environmental precautions for the use of the instruments.