

# 2011 Training Courses



GD

ICP

Particle Size Analysis

C/S & O/N/H Analyzis

S & Cl in Petroleum

X-Ray Fluorescence

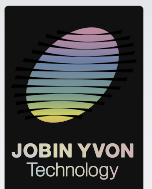
*Exceeding Customer Expectations*

**HORIBA Jobin Yvon S.A.S.**

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[www.horiba.com/scientific](http://www.horiba.com/scientific)



# Training Courses calendar 2011

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

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

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

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

- **Training course at our approved HORIBA Scientific training center:** learn and share your experience with other users and acquire the basics of the technique. You will be able to directly use this knowledge for your applications in your own laboratory.

Certificates are given to every attendee for every course

	Course Title	Date	Duration
<b>Glow Discharge Spectrometry</b>			
<b>GD1</b> eng	User training courses, Level 1 From Monday 9:00 to Friday 12:00	April 11 <sup>th</sup> to 15 <sup>th</sup> , 2011 October 24 <sup>th</sup> to 28 <sup>th</sup> , 2011	4,5 days
<b>Plasma (ICP)</b>			
<b>ICP1</b> eng	User training courses for ICP, Level 1 From Tuesday 9:00 to Thursday 17:00	April 19 <sup>th</sup> to 21 <sup>st</sup> , 2011 October 17 <sup>th</sup> to 19 <sup>th</sup> , 2011	3 days
<b>ICP1+</b> eng	Diagnostics in ICP-OES - monitoring of the performances of the spectrometer	Contact us	1 day
<b>ICP2</b> eng	User training courses for ICP, Level 2	Contact us	2 days
<b>Particle Size Analysis</b>			
<b>PSA1</b> eng	PSA User training courses on LA-950	June 15 <sup>th</sup> to 16 <sup>th</sup> , 2011 October 4 <sup>th</sup> to 5 <sup>th</sup> , 2011	2 days
<b>PSA3</b> eng	PSA User training courses on SZ-100 DLS	October 6 <sup>th</sup> , 2011	1 day

# Training Courses calendar 2011

	Course Title	Date	Duration
<b>EMIA/EMGA/SLFA/XGT WR</b>			
<b>HOR1</b> eng	EMIA User training courses	September 26 <sup>th</sup> , 2011	1 day
<b>HOR2</b> eng	EMGA User training courses	September 27 <sup>th</sup> , 2011	1 day
<b>HOR3</b> eng	SLFA User training courses	September 28 <sup>th</sup> , 2011	1 day
<b>HOR4</b> eng	XGT WR User training courses	September 29 <sup>th</sup> , 2011	1 day
<b>Spark and 3D Metal</b>			
<b>ET1</b> eng	User training courses on site training	Contact us	2 days
<b>On site Training</b>			
<b>Formsite</b>	On site training (living and travelling expenses not included)	Contact us	Contact us
<b>Assisana</b>	Analytical Assistance (living and travelling expenses not included)	Contact us	Contact us

“Our trainers are Experts in each Elemental Analysis and Particle Size Technique

They will provide you with advice and guidance to make the most of your HORIBA Scientific instrument.

You will gain confidence and experience in the analysis of your samples.”



## GD1 eng

Duration 4,5 days

Dates April 11<sup>th</sup> to 15<sup>th</sup>, 2011  
October 24<sup>th</sup> to 28, 2011

### Who should attend

Users of Horiba Scientific GD spectrometers

### Schedule

The training is done in the laboratory

## Objectives

- Know how to optimize the instrumental parameters
- Ability to use of the software
- Perform the bulk and surface calibrations
- Analysis of unknown samples
- Know and use of the accessories and how to use them
- Instrument diagnostics and how to interpret
- How to identify and rectify problems

### 1<sup>st</sup> Day: 9:00 - 17:00

- a) Fundamentals of GD-OES
  - 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
  - Optimization for a given application
  - Precautions
  - Qualitative analysis
  - Curve treatments

### 2<sup>nd</sup> Day : 9:00 - 17:00

- a) Principle of calibration 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, optimization, recalibration, mini-calibration, SPC

### 3<sup>rd</sup> Day : 9:00 - 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

### 4<sup>th</sup> Day : 9:00 - 17:00

- Example of surface calibration.
- Optimization of the curves
  - Recalibration
  - Possible problems

### 5<sup>th</sup> Day : 9:00 - 12:00

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

For further information, contact:

**Tél : + 33 (0) 1 64 54 13 00 Ext: 12 32**

**Fax : + 33 (0) 1 69 09 90 88, SAS-eA.sci@horiba.com**

# ICP user training Level 1

## ICP1 eng

**Duration** 3 days

**Dates** April 19<sup>th</sup> to 21<sup>th</sup>, 2011  
October 17<sup>th</sup> to 19<sup>th</sup>, 2011

**Who should attend**

Users of HORIBA Scientific ICP-OES spectrometers

**Schedule**

**Training room and applications laboratory**

Theoretical part: 4 hours  
Practical part: 17 hours

## Objectives

- Overview of the ICP-OES technique,
- Acquire theoretical and practical knowledge on ICP-OES spectrometers
- Learn to use the software (latest version used in the laboratory)
- Learn methodology for method development and major analytical parameters

### 1<sup>st</sup> Day: 9:00 - 13:00

- Welcome
- Theory of ICP-OES: principle and instrumentation
- Method development: wavelength selection, optimization of the parameters and interpretation of 1<sup>st</sup> results
- Maintenance

### 14:00 - 17:00

- Influence and optimization of nebulization flow
- Influence and optimization of sheath gas flow
- Influence of integration time
- Questions

### 2<sup>nd</sup> Day : 9:00 - 17:00

- Creation of an analytical method
- Selection of analytical lines
- Semi-quantitative analysis
- Use of SmartView and Image software
- MASTER and CLIP tools
- Selection of entrance and exit slits
- Background correction positioning
- Determination of the limit of detection
- Questions

### 3<sup>rd</sup> Day : 9:00 - 17:00

- Standard additions technique
- Inter-element corrections
- Internal standardization
- Option (according to trainees interest): Hydride generation with CMA, oil analysis, organics
- Summary of the training

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# Diagnostics in ICP-OES – Monitoring of the performances of the spectrometer

## ICP1+ eng

**Duration** 1 day

**Dates** On demand

**Who should attend**

Users of HORIBA Scientific ICP-OES spectrometers (it is recommended to attend first the ICP training “Use of the ICP-OES technique” or to have experience in the use of ICP-OES spectrometers.

**Schedule**

**Training room and applications laboratory**

Theoretical part: 1 hour

Practical part: 6 hours

### Objectives

- Follow the performances of the ICP-OES spectrometer over the time,
- Identify failures and their origin and solve these problems.

#### 9:00 - 10:00

- Welcome
- Critical parameters of the ICP-OES
- Monitoring procedure
- Interpretation of the data
- Questions

#### 10:00 - 17:00

- Creation of a method for diagnostics purposes
- Measurements of parameters
- Simulation of problems and interpretation of data
- Maintenance
- Summary of the training

## ICP Advanced training Level 2

## ICP2 eng

**Duration** 2 days

**Dates** On demand

**Who should attend**

Concerned People: Users of HORIBA Scientific ICP-OES spectrometers already skilled in the ICP-OES technique and wanting to get skilled in analytical method development.

**Schedule**

**Training room and applications laboratory**

Theoretical part: 3 hours

Practical part: 11 hours

### Objectives

- Major instrumental parameters and their optimization,
- How to set up an analytical strategy with an unknown sample
- Interpret results

#### 1<sup>st</sup> Day: 9:00 - 13:00

- Welcome
- Reminder on instrumental parameters and their role in ICP-OES
- Interferences in ICP-OES
- Reminder on analytical methods
- Analytical Performances

#### 14:00 - 17:00

- Spectral interferences
- Matrix effects: acids, major elements, viscosity, easily ionized elements, etc
- Questions

#### 2<sup>nd</sup> Day : 9:00 - 17:00

- Work in the applications laboratory on an unknown sample defined according to the application field of trainees.
- Summary of the training

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# Particle size analyser user training courses

## PSA1 eng

**Duration** 2 days

**Dates** June 15<sup>th</sup> to 16<sup>th</sup> 2011  
October 4<sup>th</sup> to 5<sup>th</sup> 2011

### Who should attend

Users equipped with an LA-950 particle size analyzer from HORIBA

### Schedule

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

### Objectives

- Acquire theoretical and practical knowledge on the particle size analyzer
- Learn to optimize operating conditions for any sample

### 9:00 - 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

## PSA3 eng

**Duration** 1 day

**Dates** October 6<sup>th</sup> 2011

### Who should attend

Users equipped with an SZ-100 DLS analyzer from HORIBA

### Schedule

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

### Objectives

- Understand DLS and zeta potential fundamentals
- Learn to collect good data and interpret results

### 9:00 - 17:00

- Dynamic light scattering (DLS) theory
- Zeta potential theory and colloid stability
- Sample preparation
- SZ-100 software functions
- Instrument verification
- Result interpretation
- Standards and best practices

For further information, contact:

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## C/S user training course on a HORIBA Analyzer

### HOR1 eng

Duration 1 day

Dates September 26<sup>th</sup> 2011

Who should attend

Users of the EMIA C/S analyzer

Schedule

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

### Objectives

- Know how to optimize the instrumental parameters
- Control of the analytical conditions
- How to interpret the results

**9:00 - 17:00**

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

## O/N/H user training course on a HORIBA Analyzer

### HOR2 eng

Duration 1 day

Dates September 27<sup>th</sup> 2011

Who should attend

Users of the EMGA O/N/H analyzer

Schedule

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

### Objectives

- Know how to optimize the instrumental parameters
- Control of the analytical conditions
- How to interpret the results

**9:00 - 17:00**

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

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## Sulfur in Oil user training course on a HORIBA Analyzer

### HOR3 eng

Duration 1 day

Dates September 28<sup>th</sup> 2011

Who should attend

Users of the SLFA, S in oil analyzer

Schedule

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

### Objectives

- Know how to optimize the instrumental parameters
- Control of the analytical conditions
- How to interpret the results

**9:00 - 17:00**

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

## XGT user training course on a HORIBA Analyzer

### HOR4 eng

Duration 1 day

Dates September 29<sup>th</sup> 2011

Who should attend

Users of the XGT X-Ray Fluorescence Analyzer

Schedule

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

### Objectives

- Know how to optimize the instrumental parameters
- Control of the analytical conditions
- How to interpret the results

**9:00 - 17:00**

- Presentation of HORIBA Scientific instruments
- Theory of the technique
- Description of the XGT analyzer
- Preparation of samples (solid/liquid)
- Software presentation
- Realization of a calibration
- Identification of the different peaks in the spectra
- Correction of spectral interferences
- First level preventive maintenance
- General analytical discussion

For further information, contact:

**Tél : + 33 (0) 1 64 54 13 00 Ext: 12 32**

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## ET1 eng

Duration to be mutually agreed

Fees Contact us

Dates to be mutually agreed

Who should attend

Users equipped with the HORIBA Scientific Instrument

On site training

### Objectives

- Sample preparation
- Choice of wavelengths
- Know how to check and optimize the instrumental parameters
- Control of the analytical conditions
- Calibration of the instrument
- How to interpret the results
- Surface analysis
- Optimization for surface analysis
- How to identify problems and solve these problems
- Diagnostics

## On site training and Analytical Assistance

### Formsite or Assisana

Duration to be mutually agreed

Dates to be mutually agreed

Who should attend

Users equipped with the HORIBA Scientific Instrument

On site training

### Objectives

- Meet your specific needs with a customized training
- Practice and improve your knowledge, by taking advantage from the experience of the HORIBA application specialists

### Schedule of on site training (example)

- We define together the program of the training beforehand
- Examples: User training on ICP-OES, Use of MASTER, CLIP, etc

### Schedule of an analytical assistance (example)

- Analysis and results diagnostics, operating conditions optimization, matrix matching, reagent blanks...
- Advice and operational help. Example: Analysis of major elements in stainless steel, analysis of trace elements in water...

For further information, contact:

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# Registration Form

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

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

Company/Organisation: .....

Address: .....

Telephone Number: ..... Fax: .....

Email: .....

Purchase order number: .....

Invitation letter requested: .....

If yes: ..... Accomodation at hotel: .....

Passport number: ..... Date of arrival: .....

Date of passport validity: ..... Date of departure: .....

Date of birth: ..... Additional hotel dates (if requested in Paris): .....

Place of issue (as mentioned on the passport): .....

Date and signature

Stamp of the company

## Information

**Registration:** fill in the form and send it back by FAX or Email four weeks before beginning of the training.

**Registration fees:** the registration fees include the training courses and documentation. Hotel, 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 00 Ext: 12 32

Fax: + 33 1 69 09 90 88

E-Mail: [SAS-eA.fr@horiba.com](mailto:SAS-eA.fr@horiba.com)

Siret Number: 837 150 366 00024

*HORIBA Scientific continues contributing to the preservation of the global environment through analysis and measuring technology*



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.

# Practical Information

HORIBA Scientific provides training and application courses focused on ICP, GD, Particle Size and elemental analyzers. Courses range from basic to advanced levels and are taught by application experts. The theoretical sessions aim to provide a thorough background in the basic principles and techniques. The practical sessions are directed at giving you hands-on experience and instructions concerning the use of your instrument, data analysis and software. We encourage users to raise any issues specific to their application. At the end of each course a certificate of accomplishment is awarded.

Standard, customized and on-site training courses are available in France, Germany, USA and also at your location. Dates of the training calendar 2011 are only available for HORIBA Jobin Yvon France training center.

## Registration

Fill in the form on page 11 and:

- Email it to: [SAS-eA.fr@horiba.com](mailto:SAS-eA.fr@horiba.com)
- Or Fax it to: +33 (0)1 69 09 90 88
- More information, tel: +33 (0)1 64 54 13 00 ext 12 32

## General Information

The invoice is sent at the end of the training. A certificate of participation is also given at the end of the training. We can help you to book hotel accommodation. Following your registration you will receive a package including training details and course venue map. We will help with invitation letter for visa, but HJY are not responsible for any visa refusal.

## Pricing

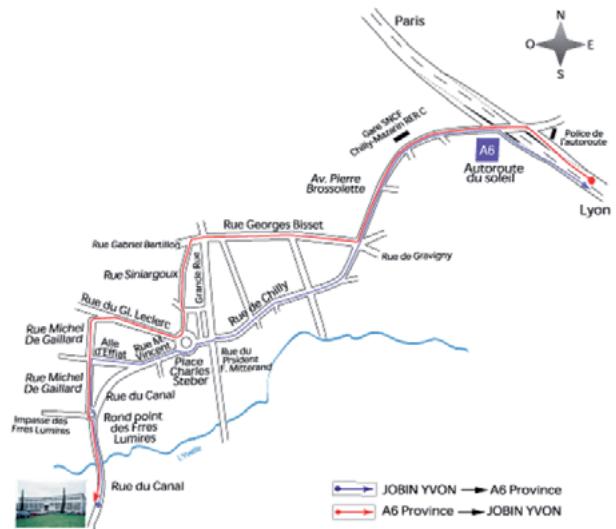
Include refreshments and handbook. Hotel transportation, accommodation and evening meals are not included.

## Location

Longjumeau (France, 20 km from Paris), or at your facility for on-site training courses. Training courses can also take place in subsidiaries in Germany or in the USA.

## Access to HORIBA Jobin Yvon, Longjumeau

HORIBA Jobin Yvon SAS  
16 - 18 rue du canal  
91165 Longjumeau - FRANCE



## From the south A6 highway

- Highway A6 to Paris, take the exit N° 5 «Chilly-Mazarin». When out, turn left to Longjumeau direction.



## From Paris on A6 highway

- Take Porte d'Orléans A6 A / Porte d'Italie A6 B.
- Follow highway A6
- Don't take the first exit «Longjumeau»
- Continue on A10 and follow «Chartres, Orléans, Bordeaux»
- On A10, Keep on the left line and follow «Etampes, Orléans, Montlhéry, La Ville du Bois»
- When on the N20, take the first exit on the right «Longjumeau, Saulx les Chartreux, Villebon»

## From the RER C station SNCF Longjumeau

- Our site is ten minutes walking from the station

## From Roissy

- RER B – Station Massy-Palaiseau
- RER C – Station Longjumeau