



2012

qPCR and Gene Expression Analysis Courses

# qPCR Assay Design and Sample Preparation

An advanced course with hands-on in the laboratory

11th - 12th September / 4th - 5th December

## Who will benefit from attending?

Real-time PCR users who need advanced hints and tips for DNA and RNA sample preparation and experimental design of real-time PCR applications.

## Objective

The objective of this course is to offer the opportunity to have hands-on in the lab under the supervision of instructors. Best strategies and practices for effective sample preparation, efficient reverse transcription, generation of high quality PCR data and optimal qPCR assay design will be recommended.

## Content

Nucleic acids isolation and purification

- Introduction to sample preparation techniques and principles
- Hands-on for different sample preparation methods
- Extraction from difficult matrices and small samples
- RNA and DNA quality control
- Automated electrophoresis

*In silico* assay design: "design your own assay"

- Introduction to PCR and qPCR
- Primer and probe design
- Reverse transcription: guidelines and practical hands on for cDNA synthesis
- Real-time quantitative PCR (qPCR) experimental guidelines and hands-on in the lab



## Trainers: tataabiocenter and Bio-Rad technical specialists

TATAA Biocenter is a commercial research provider that offers training and commissioned research within molecular diagnostics and gene expression analysis using real-time PCR and other molecular techniques to quantify nucleic acids. Their competence is based on knowledge and experience accumulated through years of research at leading European Universities.



*"It was great and valuable courses"*

Patrick Faye, Laboratoires Fournier / Solvay Pharmaceuticals, France

*"I would have needed weeks or months to gather all these critical knowledges"*

Stéphanie Lecaude, Universitätsspital Bern, Switzerland

## How to find us...



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# qPCR and Statistical Analysis of Gene Expression

An interactive course with statistical exercises based on real data, including data sets provided by participants

**13th - 14th September / 6th - 7th December**

## Who will benefit from attending?

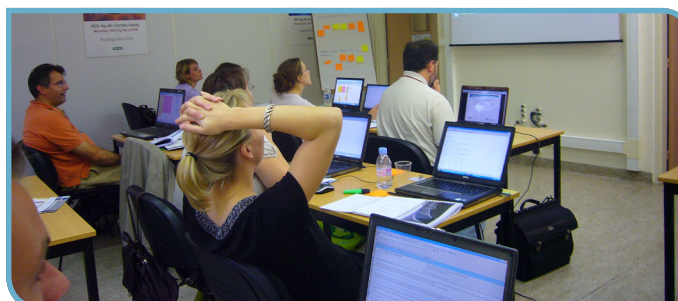
Real-time PCR users who need advanced knowledge in BioStatistics in the field of Gene Expression analysis.

## Objective

The objective of this course is to provide an understanding of data processing and statistical methods used for analysis of data obtained by real-time PCR. A key ingredient of the course is practical exercises based on real data, including data sets provided by participants. The common experimental designs are introduced and data from such studies is analysed by participants under the supervision of instructors. Throughout the course participants will become familiar with the most common experimental cases and create excel-based templates for data analysis which they can take home for their own use. In addition, an overview of suitable qPCR software tools will be given.

## Content

- Introduction to statistics
- Amplification process
- Threshold level and the Cq value
- Computation of the copy number
- Computation of the expression value
- Normalisation methods
- Selection and normalisation with reference genes
- Statistical tests in analysis of real-time PCR data (demo versions of software will be provided)
- qbase<sup>PLUS</sup>, etc..
- MIQE guidelines



## Trainers: Jo Vandesompele, Jan Hellemans and Bio-Rad technical specialists

Jo is a Professor in bioinformatics and biocomputing at the Center for Medical Genetics, Ghent University since 2007. He is author of various pioneering publications in the area of real-time PCR. Together with Jan Hellemans he developed advanced and universally applicable quantification methods for automated and accurate qPCR data analysis. He is also the co-founder of Biogazelle, the real-time PCR data-analysis company.

Jan Hellemans has a Master in Biotechnology (2000, Ghent University) and a PhD in Medical Genetics (2007, Ghent University). Dr Hellemans is author of several scientific articles in high-ranked journals and is active as a teacher in qPCR courses. He supervises a core facility for automated DNA-isolation, sequencing, genotyping and high-throughput real-time PCR. Jan is the designer and programmer of the qBase software that is used for qPCR data analysis.



*"I liked the courses very much and would recommend to everybody"*

Bas Brinkhof, University Utrecht, The Netherlands

*"Very good to have non Bio-Rad instructors, to ask anything, and to have open neutral discussions, tips, and hints."*

*"Statistics presented by knowledgeable biologists is simply great"*

Huguette Debaix, Université de Louvain, Belgium

Catalogue number	Description	List Price
QPCRTRAIN00	qPCR Assay Design and Sample Preparation Course	1500 €
QPCRTRAIN01	qPCR and Statistical Analysis of Gene Expression Course	1500 €

**Save Up to 1000 €**  
if you register one month before

# Real-Time PCR

Advanced Training Courses

**Register now** to benefit from the experience of experts in gene expression analysis

The training courses will be conducted in English at our dedicated training facility at Marnes-la-Coquette, close to the heart of Paris, France. To register, complete this registration form and return it to our training centre or register online at:

<http://bit.ly/zlwYSP>

Catalogue Number	Course Title	Date	Course Fee*		Tick Box
			Booked more than a month before.	less than a month before.	
QPCRTRAIN00	qPCR Assay Design and Sample Preparation	11th - 12th September	1000 €	1500 €	<input type="checkbox"/>
QPCRTRAIN00	qPCR Assay Design and Sample Preparation	4th - 5th December	1000 €	1500 €	<input type="checkbox"/>
QPCRTRAIN01	qPCR and Statistical Analysis of Gene Expression	13th - 14th September	1000 €	1500 €	<input type="checkbox"/>
QPCRTRAIN01	qPCR and Statistical Analysis of Gene Expression	6th - 7th December	1000 €	1500 €	<input type="checkbox"/>

\* Course fee excludes VAT and includes cost of all laboratory consumables and reagents required for the training. Lunches are included in the price. Each trainee will receive a certificate of attendance, a course folder and CD containing course materials. Participants must cover their own travel and accommodation arrangements and associated costs. However, some hotel recommendations as well as detailed transportation information will be provided after confirmation of registration.

Places are strictly limited to a maximum of 12 attendees due to the practical nature of the course. Places will be assigned following the first registered, first served principle. If minimum enrolment numbers are not met, the course may be cancelled at the discretion of Bio-Rad Laboratories. In the event of course cancellation, attendees will be notified at least 10 days before the start of the course.

Title: ..... First Name: ..... Surname: .....

Organisation: .....

Department: .....

Address: ..... City: .....

Postcode: ..... Country: ..... Direct Tel No: .....

Email: .....

Date of registration: .....

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If you require further information on the content of the courses please contact Marcus Neusser directly at [marcus\\_neusser@bio-rad.com](mailto:marcus_neusser@bio-rad.com).

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