

3rd – 6th March 2004 in Freising-Weihenstephan, Germany

1st International qPCR Symposium & Application Workshop

Transcriptomics, Clinical Diagnostics & Gene Quantification

Press release – English

The 1st International qPCR Symposium & Application Workshop is organized jointly by the Technical University of Munich and the TATAA Biocenter, Sweden
<http://www.wzw.tum.de/gene-quantification/qpcr2004/>

The Physiology Weihenstephan at the Technical University of Munich and the TATAA Biocenter in Sweden, with support from leading biotechnology companies, have taken the initiative to gather for the first time World's leading researchers in the qPCR field. During 4 days in Freising-Weihenstephan more than 400 scientists from 41 countries will exchange ideas, share experiences, and discuss the exciting future of the perhaps most powerful analytical technology ever developed in the life sciences area.

Quantitative real-time polymerase chain reaction, qPCR, is an improved technology based on PCR that was awarded 1993 Nobel price in Chemistry. With qPCR the amount of target nucleic acid in a complex sample can be determined with high precision, absolute correctness, excellent specificity and the ultimate sensitivity of detecting even only one molecule. The technique has revolutionized molecular diagnostics. Hospital laboratory tests that used to take weeks, sometime months to perform, and required the handling of hazardous chemicals, can today be made in hours in fully automated systems. Conference presentations will show that in near future, using improved instrumentation, the qPCR test will take only 15 minutes from sampling, and the test results will be delivered to the patient while waiting. Doctors will be able to perform tests during surgery and decide treatment based on test results. In biomedical research and drug development gene expression measurements with qPCR opens completely new possibilities. Presentations at the conference will show how expression of key genes can be measured in individual cells. This makes it possible to study development processes, including the differentiation of stem cells into specialized tissue. Global expression of genes reflects the health state of an individual, which makes it possible to monitor how patients respond to drugs. This will lead to individual treatments of disease and ultimately to individualized medicine.

Identification and quantification of pathogens in plant, animal and human diseases – gene silencing, pharmacogenomics, nutrigenomics - there is almost no field in life sciences not open to many qPCR applications for nucleic acid analysis. Further developments of qPCR technology focus on miniaturisation, higher throughput, cost efficacy and validity. Combination of qPCR with mass spectrometry allows the rapid detection of point mutations; combination with reverse transcription enables determination of RNA and widely opens the window for "Transcriptomics" – the first step of gene expression and functional genomics. Some respective highlights of the conference: expression of anti aging genes becomes measurable - sensitivity and response to malaria shows individual differences. qPCR has allowed to illuminate the gap between encoding gene and final gene product.

About the Physiology Weihenstephan at the Center of Life and Food Sciences at Technical University of Munich: The Physiology Weihenstephan chaired by Professor Heinrich H. D. Meyer, is a leading authority in the molecular physiology of mammalian species. Cutting edge biochemical and molecular biology techniques are established for basic and applied research on the regulation of reproduction, lactation and growth. Both traditional endocrinology and paracrine regulations are studied. Dr. Michael W. Pfaffl is developing qPCR for quantitative gene expression analysis, optimizes and validates the qPCR reaction (<http://www.wzw.tum.de/gene-quantification/>).

About TATAA Biocenter: TATAA Biocenter (<http://www.tataa.com>) is the leading qPCR service provider in Europe. It has contributed to the development of qPCR by several inventions, including the LightUp probes that are used in the RESSQ assays for human infectious disease testing by LightUp Technologies AB, the qPCR lymphoma test developed by CanAg diagnostics AB, and the BEBO family of dyes for non-specific labeling of qPCR products. The center is associated with Chalmers University of Technology and the University of Göteborg, in Sweden.

For more information about the 1st International qPCR Symposium & Application Workshop, see: <http://www.wzw.tum.de/gene-quantification/qpcr2004/> or contact Dr. Michael W. Pfaffl (pfaffl@wzw.tum.de), Professor Heinrich H. D. Meyer (physio@wzw.tum.de), or Professor Mikael Kubista (mikael.kubista@tataa.com).