

Next Generation Biomarkers
Liquid Biopsy, Multi-Omics, MicroGenomics

Symposium & Exhibition & Workshops

18-22 March 2019 @ [TUM School of Life Sciences, Freising-Weihenstephan, Germany](#)

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First Announcement – 9th Gene Quantification Event 2019



[Impressions GQ2017 Event](#)

Dear researcher,
Dear company representative,

The great international interest in the previous **Gene Quantification Events** from 2004 till 2017 with a constant audience of around 500 participants from all over the world motivates repeating the success next year. The **9th qPCR dPCR & NGS Event** will take place from 18th to 22nd March 2019. We broaden our focus in genomics applications from **quantitative RT-PCR**, to **digital PCR** and the latest **Next-Generation Sequencing Technologies** as well as the connected integrative **Multi-Omics data analysis**. As in previous years, we offer a three-day scientific symposium with around 70 talks in two lecture halls. Parallel to the scientific symposium, an **Industrial Exhibition** will take place and around 35-40 international companies will present their latest molecular diagnostics, PCR and NGS services, hardware, technologies, and software applications. The symposium will be followed by various 2-day **PCR & NGS-related Workshops** that take place March 21st and 22nd and are powered by academic and commercial leaders in the field.

Event location is the central lecture hall complex and the foyer at [TUM School of Life Sciences](#) (Technical University of Munich) in Freising Weihenstephan, Germany. The TUM and the Biotech region around Munich are part of the largest Biotech cluster in Europe ([BioM](#)), representing more than 250 companies and academic institutions, located close to the Munich airport (MUC) directly in the heart of Bavaria.

The focus topics of the qPCR dPCR & NGS 2019 Gene Quantification Event are:

Next Generation Biomarkers -- Liquid Biopsy, Multi-Omics, MicroGenomics

As usual the Event is structured in three parts:

1. **Scientific Symposium** -- taking place March 18-20, including **multiple Talk & Poster Sessions**;
2. **Industrial Exhibition** -- taking place March 18-20;
3. Followed by various **PCR & NGS Application Workshops** taking place March 21-22;

The scientific organization is managed by international well-known scientists in the field of gene quantification:

Stephen Bustin	Prof. of Molecular Medicine, Faculty of Health, Anglia Ruskin University, UK
Mikael Kubista	Prof. of Biotechnology, BTU, Czech Academy of Sciences & TATAA Biocenter, Sweden
Vladimir Benes	PhD, Head of the Genomics Core Facility at EMBL, Heidelberg, Germany
Jim Huggett	PhD, University of Surrey, Nucleic Acid Metrology, LGC, London Twickenham, UK
Justin O'Grady	PhD, Medical Microbiology, University of East Anglia, UK
Anders Stahlberg	Prof. at Department of Pathology and Genetics, Sahlgrenska Cancer Centre, Sweden
Jo Vandesompele	Prof. at Center of Medical Genetics, University of Ghent, Belgium
Michael W. Pfaffl	Prof. of Molecular Physiology, TUM School of Life Sciences, Weihenstephan, Germany

Have a look on the previous events at YouTube [Impressions GQ2017 Event](#) or at our streaming portal www.eConferences.de

Symposium

The symposium is based on around **70 lectures and over 100 posters** presented by internationally recognized experts in their application fields. The emphasis will be on unbiased, didactic and scientific exchange of information. One third of the talks will be presented by invited speakers, one third of the speakers will be selected from submitted abstracts and **one third of presentations will be given by science-oriented R&D representatives from industry**. Various poster sessions will be held in parallel in a separate poster exhibition hall.

Symposium Sessions for Talk & Poster Presentations:

Please register and submit your scientific contribution (talk or poster abstracts) via our online registration tool, called **ConfTool** => <http://Registration.qPCR-dPCR-NGS-2019.net> **Submission deadline is 15th January 2019**

Main topic: Next-Generation Biomarkers

The session is about the discovery, detection and validation of molecular biomarkers: diagnostic, prognostic, clinical biomarkers on DNA, RNA, microRNA, lncRNA, small RNA, metabolome and proteome level (e.g. disease markers, cancer or stem-cells markers, tissue specific markers, differentiation markers, methylation markers). New assay systems from high-throughput genomics and proteomics will be presented.

Main topic: Liquid Biopsy & Circulating Nucleic Acids

The capture of whole circulating tumor cells (CTCs) was the initial focus of liquid biopsy. Today, it also includes the collection and analysis of cell-free nucleic acids to provide useful information on the physiological status. The session includes any kind of circulating nucleic acids families (DNA, RNA, small RNAs, microRNAs, piRNAs, & lncRNAs). Extracellular Vesicles & exosomes have their own session!

Main topic: Multi-Omics & Integrative Big Data Analysis

This session focuses on the application of highly sophisticated methods, applications and algorithms to discover, detect, and validate molecular biomarker signatures. A special focus is put on the integrative analysis of multi-omics or multi-level biomarkers, e.g. microRNA / mRNA / lncRNAs, and the complex analysis of genomic, proteomic, metabolomic & phenotypic markers.

Main topic: MicroGenomics & Single-Cells Diagnostics

The focus of this session is on micro-genomics, the application of molecular methods to detect biomarkers in a minimal amount of tissue or any other biological matrix. New applications in single-cell biology will be presented: spatial transcriptomics, new isolation, separation, characterization technologies, laser-microdissection, capturing of circulating tumor cells (CTC), pre-amplification techniques, sub-cellular PCR, micro-manipulation of cell clusters, cellular micro injection, FACS sorting and spotting.

ISEV Satellite Session – EV & Exosome Diagnostic Biomarkers

The broader scope of this session covers the isolation, purification, quantification and characterization of extracellular vesicles (EVs) such as exosomes and microvesicles as well as the analysis of corresponding biomarkers (intra-vesicular and membrane-associated). The focus will be on EV transcriptomics & genomics, and the connected integrative bioinformatics, e.g. integrative data analysis and isomiR analysis for exosomal biomarker discovery in any clinical or Life Science context.



Digital PCR

Digital PCR (dPCR) can be used to directly quantify and clonally amplify nucleic acids including DNA, cDNA, mRNA, microRNA or any other small RNA species. It allows a more reliable and highly sensitive measurement of nucleic acid quantities as well as applications in copy number variants (CNV) and analysis of point mutations in molecular diagnostics.

Non-coding RNAs -- microRNA, isomiRs, small RNAs, long non-coding RNAs

This session is dedicated to the family of non-coding RNA and its RNAi mechanism and applications. A new focus will be on the identification and data analysis & modelling of new isomiR biomarkers and long non-coding RNAs. RT-qPCR or small RNA-Seq technologies to quantify small & long non-coding RNAs and other classes of small RNAs, such as piRNAs or tRNAs. siRNA knockdown applications, microRNA targets and microRNA precursors, new siRNA manipulation, etc. will be presented.

Next-Generation Sequencing (NGS)

NGS applications offer new holistic analysis of any kind of nucleic acid to investigate the Genome, Exome, Epigenome, Transcriptome and Splicome (total RNA, microRNA, small RNA, long ncRNA) as well as CHIP-purified nucleic acids, etc. Various NGS topics will be presented: “NGS overview talks - information technology in the era of NGS & diagnostic applications”; “Pre NGS - sample preparation & setup & library generation”; “NGS – new sequencing technologies e.g. in-situ, single molecule and pore sequencing”; NGS – data analysis: data management, mapping, alignment algorithms, data de novo assembly.

qPCR & NGS data analysis

The data analysis in RT-qPCR expression profiling and NGS experiments is still challenging and time consuming. It is well known that a lot of error and variation is introduced by incorrect experimental study design, poor sample and group normalization or differential gene expression analysis. This session is focused on the application of useful new algorithms & data analysis methods to get better, more reliable and MIQE-compliant results, e.g. R-based freeware, and software applications for data mining and comparison, calculation of relative expression. One focus of this session will be on mathematical modelling, multivariate expression profiling, statistics in NGS and qPCR, multiple regression analysis, 3D data visualization, and more.

Advanced Molecular Diagnostics in Life Science

This session is dedicated to molecular diagnostics in Life Science, with focus on Agriculture, Veterinary Medicine, Food and Environmental Science, which is the major research focus at the TUM School of Life Science Campus Weihenstephan. All applications of highly sophisticated quantification methods, field application or algorithms to research the wide field of agro-veterinarian, food or life science are very welcome.

MIQE & QM & Standardization Strategies in Molecular Diagnostics

This session focuses on standardization strategies and quality management in research & molecular diagnostics. The goal is to guarantee better and more valid gene quantification results. Of special interest in the context of qPCR or dPCR are the MIQE guidelines (Minimum Information for publication of Quantitative real-time PCR Experiments). Following these guidelines will encourage better experimental practice, allowing more reliable and unequivocal interpretation of qPCR and dPCR results.

Technical Lunch-Time Seminars

For commercial and industry talks (25 min talk and 5 min discussion).

BDQ Special Issue

Selected and invited scientific contributions will be published in a special issue [Biomolecular Detection and Quantification](#) (Elsevier, ISSN 2214-7535) with the title **"Liquid Biopsy & Next Generation Biomarkers"**.

Streaming Portal

All talks will be recorded and made public in autumn 2019 via the www.eConferences.de streaming platform. Up to now around 350 talks are free available from previous Gene Quantification events 2010 - 2017.

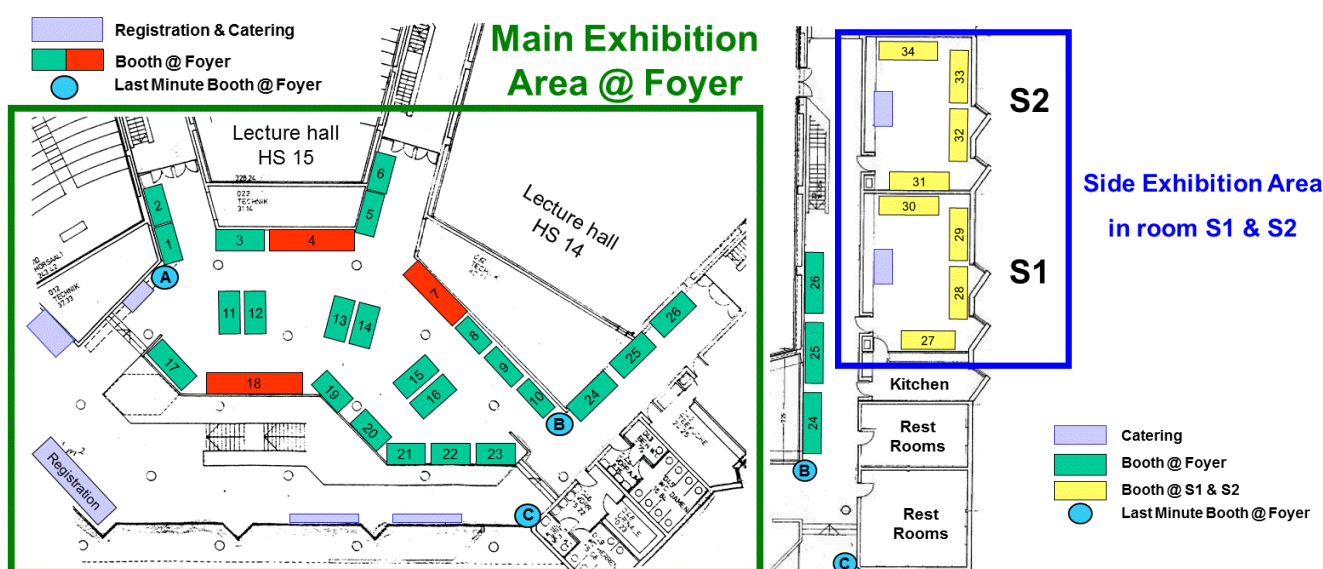
Industrial Talks

Participating companies have the opportunity to [sponsor the event](#) and present their latest services, hardware and technologies. From our Lead- and Gold-Sponsors we expect to have around 10-15 industrial presentations. All these presentations should be [focused on key problems and scientific challenges in molecular diagnostics](#) using PCR or NGS and should offer solutions to these. Participants like to be informed about methodological news and their application based on innovative industrial research. **The organizers strongly appeal to the participating companies to present an interesting academic talk (25 min talk and 5 min discussion) showing results from R&D and NOT a sales promotion of existing products.** Therefore company representatives from the R&D and research orientated product specialists will be given priority.

Industrial Exhibition

An industrial exhibition with 35-40 companies will be held during the qPCR Symposium March 18-20 in the **main exhibition area @ foyer** of the central lecture hall complex (marked by green frame) and in the **side exhibition area** (room S1 and S2 marked by blue frame). The exhibition sites are very close to the lecture halls HS 14 and HS 15 where all the symposium lectures will be held.

If you are interested to participate in the industrial exhibition, please contact the bioMCC event organisation team Eventmanagement@bioMCC.com



Application Workshops

The workshops are aimed at giving participants a deep and objective understanding of real-time quantitative PCR, digital PCR, Next-Generation Sequencing (NGS), biostatistics, expression profiling, and their applications in various fields of molecular diagnostics. The courses are intended for academic or industrial researchers considering working with qPCR, dPCR or NGS or scientists currently working with these technologies who seek a deeper understanding. All workshops offer extensive hands-on training by PCR and NGS experts. Detailed description of the workshops => <http://Workshops.qPCR-dPCR-NGS-2019.net>

PCR & NGS Workshop Topics:

- **Basic real-time qPCR Application Workshop** (2-days) hosted by TATAA
- **Analysis of Gene Expression Data -- qPCR, RNA-Seq, Microarray, Nanostring; From pre-processing and quality control to normalization, statistical analysis and modelling** (2-days) by TATAA
- **Digital PCR workshop** (2 days) **to be confirmed**
- **NGS – Library construction and quality control** (2-days) hosted by TATAA
- **NGS data analysis workshop** (2-days) **to be confirmed**

Symposium & Workshop Fees

The registration fees include:

- Printed proceedings showing all abstracts of the scientific talk and poster contributions;
- Online access to full presentations with permission from the authors and presenting companies all recorded talks, presentation slides, and posters will be available online as PDF on the streaming portal www.eConferences.de (password protected until autumn 2019 and only available for participants);
- Full catering service including all kind of soft drinks, coffee bar, milk bar, various cold or hot snacks, lunch meals during the symposium and workshops. You participate at three evening events, a Bavarian style **Get-Together Reception** on Monday evening March 18th; a **Conference Dinner** on Tuesday evening March 19th at [Bräustüberl Weihenstephan](#) the “*World's oldest brewery*” with various delicious international buffets, alcoholic drinks, soft drinks, and a **After Dinner Party** with beer, wine, cocktails, music and dancing on Tuesday night March 19th;

	Early registration fees until 31st December 2018	Late registration fees from 1st January 2019
Symposium (3 days)		
students*	360 Euro	410 Euro
academic attendants	460 Euro	510 Euro
industrial attendants	560 Euro	610 Euro
Workshop (2 days)		
students*	440 Euro	490 Euro
academic attendants	540 Euro	590 Euro
industrial attendants	640 Euro	690 Euro
Symposium + Workshop (5 days)		
students*	750 Euro	850 Euro
academic attendants	950 Euro	1.050 Euro
industrial attendants	1.150 Euro	1.250 Euro

* The students should present a valid student passport at the registration.

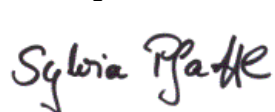
Net prices are displayed -- 19% German VAT is additionally charged to the net price!

Further Questions and suggestions

If you have further questions, we are pleased to help you. Up to date information is available on the Symposium Homepage www.qPCR-dPCR-NGS-2019.net For further details about the industrial exhibition, please contact our organization team, headed by Sylvia Pfaffl, bioMCC, Germany, Eventmanagement@bioMCC.com

Hope to meet you in March 2019 at the 9th Gene Quantification Event in Freising ☺

Best regards,




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