



10th Gene Quantification Event qPCR dPCR & NGS 2023

Sars-Cov-2, Spatial-Transcriptomics, Liquid Biopsy & CNA, Multi-Omics Biomarkers

20-24 March 2023

@ TUM School of Life Sciences, **Freising-Weihenstephan, Germany**

#GQ2023

#GQ2023 Talk & Poster Agenda

10th Gene Quantification Event

Symposium & Application Workshops & Exhibition

Focus topics:

***Sars-Cov-2, Spatial-Transcriptomics,
Liquid Biopsy & CNA, Multi-Omics Biomarkers***

Scientific Coordination: Michael W. Pfaffl
Animal Physiology & Immunology, Freising – Weihenstephan
TUM School of Life Sciences
Weihenstephaner Berg 3
Technical University of Munich (TUM)
85354 Freising
Germany

<https://Gene-Quantification-2023.events>

GQ2023 Event -- Agenda Session Overview

Online Agenda HTML => <https://tinyurl.com/GQ2023agenda>

Agenda PDF Version => <https://tinyurl.com/GQ2023agendaPDF>

	Lecture Hall no. 14 HS 14	Lecture Hall no. 15 HS 15	Foyer & Seminar Rooms S1 & S2
Sunday 19 th March			12:00 – 18:00 Industrial Exhibition Build-up
			15:00 – 18:00 Arrival & Registration
Monday 20 th March	10:00 – 10:30 <u>Opening of the Symposium</u> Welcome at TUM School of Life Sciences Michael W. Pfaffl Dean of the TUM School of Life Sciences Ingrid Kögel-Knabner		8:00 – 10:00 Arrival & Registration and Poster Setup in Foyer -- lower level
	10:30 – 12:30 <u>Next Generation Technologies</u>		
	12:30 – 14:00 <u>Lunch</u>		
	14:00 – 15:30 <u>Spatial Transcriptomics</u>	14:00 – 15:30 <u>Sars-Cov-2 & Covid-19 Session 1</u>	10:00 – 22:00 <u>Industrial Exhibition</u> in Foyer
	16:00 – 18:00 <u>Next Generation Sequencing</u>	16:00 – 18:00 <u>Sars-Cov-2 & Covid-19 Session 2</u>	
	18:00 – 22:00 Reception @ Industrial Exhibition & Poster Session Area		18:00 – 22:00 <u>Main Poster Session</u> in Foyer -- lower level
Tuesday 21 st March	8:30 – 12:30 <u>digital PCR</u>	8:30 – 12:30 <u>Liquid Biopsy & CNA 1</u>	8:30 – 14:00 <u>Industrial Exhibition</u> in Foyer
	12:30 – 14:00 <u>Lunch</u>		12:30 – 14:00 <u>Tuesday Poster Session</u> in Foyer -- lower level
	14:00 – 18:00 <u>Multi-Omics Biomarkers</u>	14:00 – 18:00 <u>Liquid Biopsy & CNA 2</u>	14:00 – 18:00 <u>Industrial Exhibition</u> in Foyer
19:00 – 23:00 Symposium Gala Dinner 22:00 – very late After Dinner Party Location: <u>Bräustüberl Weihenstephan</u> , Weihenstephaner Berg 10, 85354 Freising European – Bavarian – Asian – International Buffets, Music & Dancing & Cocktails			
Wednesday 22 nd March	8:30 – 10:30 <u>Advanced Molecular Diagnostics 1</u>	8:30 – 10:30 <u>Data Analysis</u> in qPCR, dPCR & NGS	9:00 – 14:00 <u>Industrial Exhibition</u> in Foyer
	11:00 – 12:30 <u>Advanced Molecular Diagnostics 2</u>	11:00 – 12:30 <u>MIQE & Quality Control in MDx 1</u>	
	12:30 – 14:00 <u>Lunch</u>		12:30 – 14:00 <u>Wednesday Poster Session</u> in Foyer lower level
	14:00 – 16:00 <u>Single-Cell & Micro-Genomics</u>	14:00 – 16:00 <u>MIQE & Quality Control in MDx 2</u>	14:00 – 17:00 Poster Take-down in Foyer lower level
	16:00 – 16:30 <u>Closing of the Symposium</u> Michael W. Pfaffl		Industrial Exhibition Dismantling in Foyer
Thursday 23 rd March	Seminar Rooms 82-88 @ Hans Eisenmann Forum (HEF) 9:00 - 17:00 <u>qPCR & dPCR Application Workshops:</u>		
Friday 24 th March	1. Digital-PCR -- 2-day course hosted by Bio-Rad 2. Basic hands-on qPCR -- 2-day course hosted by TATAA Biocenter 3. MicroRNA Analysis -- 2-day course hosted by TATAA Biocenter 4. Web-based qPCR data analysis -- 1-day course hosted by Dr A Untergasser, Dr MJB van den Hoff and Dr JM Ruijter		



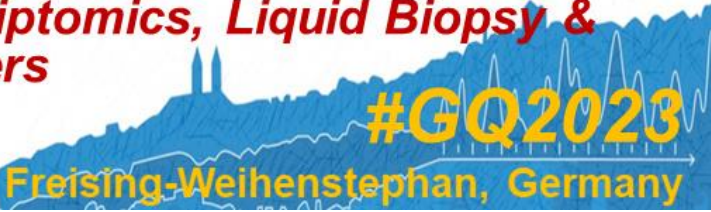

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qPCR dPCR & NGS 2023

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#GQ2023

Monday, 20th March 2023

10:00am - 10:30am	Welcome at GQ2023 & TUM School of Life Sciences Location: HS 14 Chair: Michael W Pfaffl, Technical University of Munich, Germany
10:30am - 12:30pm	Next Generation Technologies Location: HS 14 Chair: Michael W Pfaffl, Technical University of Munich, Germany Digital Sequencing Using Liquid Biopsies -- Clinical and Technical Aspects Anders Ståhlberg University of Gothenburg, Sweden Spatial multi-omics Analysis of The Tumor Microenvironment In Colon Cancers Ahmad Al Alwash EMBL Heidelberg, Germany Programmable Antiviral Platform Based On DNA Nanotechnology – The VIRUS TRAP Christian Sigl capsitec GmbH, Germany A High-throughput CRISPR-interference Screening Platform to Study lncRNA Functions Through Serial Cellular and Molecular Phenotyping Eric James de Bony de Lavergne, Fien Gysens, Wim Trypsteen, Jasper Anckaert, Nurten Yigit, Pieter Mestdagh University of Ghent, Belgium
12:30pm - 2:00pm	Lunch on Monday in Canteen Location: Mensa/Canteen Canteen at TUM School of Life Sciences Canteen menu today
2:00pm - 3:30pm	Spatial Transcriptomics Location: HS 14 Chair: Jo Vandesompele, Ghent University, Belgium Chair: Lukas Valihrach, Institute of Biotechnology CAS, Czech Republic Molecular Atlasing with MERSCOPE Reveals the Spatial Organization of Mouse and Human Tissues Dries van Hemelen Vizgen Inc., United States of America Spatiotemporal Transcriptomic Map of Experimental Ischemic Brain Injury Daniel Zucha^{1,2}, Pavel Abaffy¹, Denisa Kirdajova³, Miroslava Anderova³, Mikael Kubista^{1,4}, Lukas Valihrach^{1,3} Sars-Cov-2 & Covid-19 1 Location: HS 15 Chair: Stephen Andrew Bustin, Anglia Ruskin University, United Kingdom Chair: Carl Thomas Wittwer, University of Utah, United States of America At-Home PCR Testing For SARS-CoV-2 Carl Thomas Wittwer^{1,2,3} 1: University of Utah, United States of America; 2: Crestwood Technology; 3: CoDiagnostics How To Approach Diagnosing The Next Pandemic. A Lesson From COVID-19. Jim Huggett National Measurement Laboratory, LGC, Queens Road, Teddington, TW11 0LY, United Kingdom

	1: Laboratory of Gene Expression, Institute of Biotechnology of the Czech Academy of Sciences, Vestec, Czech Republic; 2: Department of Informatics and Chemistry, Faculty of Chemical Technology, University of Chemistry and Technology, Prague, Czech Republic; 3: Department of Cellular Neurophysiology, Institute of Experimental Medicine of the Czech Academy of Sciences, Prague, Czech Republic; 4: TATAA Biocenter AB, Gothenburg, Sweden Spatial Transcriptomics – Studies On The Single Cell And Functional Level Of Tissue Mathias Holpert NanoString Technologies, United States of America	Sars-CoV-2 RNA vs Antigen Kinetics in Different Compartments Corinna Holetschek^{1,2,3}, Amedeo de Tomassi¹, Mehmet Gökkaya^{1,2}, Daria Luschkova¹, Paul Eder¹, Dac-Loc Nguyen^{1,2}, Denise Rauer^{1,2}, Christoph Römmele⁴, Guy Gorochov^{5,6}, Claudia Traidl-Hoffmann^{1,2,3}, Avidan Neumann^{1,2} 1: Environmental Medicine, Faculty of Medicine, University of Augsburg, Germany; 2: Institute of Environmental Medicine, Helmholtz Center Munich, Germany; 3: Chair of Environmental Medicine, Technical University of Munich, Germany; 4: Medizinische Klinik III, Uniklinikum Augsburg, Germany; 5: Department of Immunology, University Hospitals Pitié Salpêtrière, Paris, France; 6: Centre d'Immunologie et Maladies Infectieuses (CIMI), Sorbonne Université, Paris, France
3:30pm - 4:00pm	Coffee break in Foyer	
4:00pm - 6:00pm	Next Generation Sequencing Location: HS 14 Chair: Mikael Kubista, TATAA Biocenter AB, Sweden Chair: Tobias Österlund, University of Gothenburg, Sweden Setting The New Benchmarks In Automated And Cost-effective qPCR and NGS Assay Using a Single Platform Céleste Letellier Standard BioTools, United Kingdom Significant Improvements To PCR Amplification Enables Better Performance For A Multitude Of Next Generation Sequencing Applications: Library Amplification With Fast, Processive, Higher-Fidelity And Inhibitor Tolerant PCR Master Mixes In The New Era Of NGS Subrata Panja Quantabio, 100 Cummings Center Suite 407J, Beverly, MA 01915 Essential Factors Affecting the Assessment of Homologous Recombination Deficiency by NGS Krystyna Nahlik LGC Clinical Diagnostics, Germany Putting Ideas Into Action - How IMGM Can Accelerate Your Research Vanessa Gebauer IMGM Laboratories GmbH, Germany	Sars-Cov-2 & Covid-19 2 Location: HS 15 Chair: Carl Thomas Wittwer, University of Utah, United States of America Chair: Stephen Andrew Bustin, Anglia Ruskin University, United Kingdom Extracellular Vesicles In COVID-19 Pneumonia And Progression To Acute Respiratory Failure Agnes Meidert¹, Florian Brandes¹, Benedikt Kirchner², Matthias Klein¹, Marlene Reithmair¹, Michael W. Pfaffi², Gustav Schelling¹ 1: LMU University Hospital, Germany; 2: Division of Animal Physiology and Immunology, School of Life Sciences Weihenstephan, Technical University of Munich Design of qPCR Assays Including Standards and Controls for Pathogen Testing in Wastewater Brigitta Saul, Nathan Feirer Promega Corporation, USA Reliable Quantification of Sars-Cov-2 in Standard Clinical Samples is Not Possible. Maurice J.B. van den Hoff¹, Andreas Untergasser², Robin van Houdt³, Jan M. Ruijter¹ 1: Medical Biology, AmsterdamUMC, location AMC, The Netherlands; 2: Center for Molecular Biology of Heidelberg University (ZMBH), 69120 Heidelberg, Germany; 3: Medical Microbiology and Infection Prevention, AmsterdamUMC, location AMC, The Netherlands Viral and Host Small RNA Transcriptome Analysis of SARS-CoV-1 and SARS-CoV-2-infected Human Cells Reveals Novel Viral Short RNAs Tom Driedonks¹, Lyle Nyberg¹, Abigail Conte², Zexu Ma², Andrew Pekosz², Eduard Duban³, Holger Sülthmann⁴, Andrey Turchinovich^{4,5}, Kenneth Witwer¹ 1: Department of Molecular and Comparative Pathobiology, Johns Hopkins University School of Medicine, Baltimore, Maryland, USA; 2: W. Harry Feinstone Department of Molecular Microbiology and Immunology, The Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA; 3: SciBerg e.Kfm, Mannheim, Germany; 4: Division of Cancer Genome Research, German Cancer Research Center (DKFZ) and German Cancer Consortium (DKTK), Heidelberg, Germany; 5: Heidelberg Biolabs GmbH, Heidelberg, Germany
6:00pm - 10:00pm	Main Poster Session Location: Lower Level All posters will be presented! Poster authors present and discuss their poster content.	Bavarian Reception in the Industrial Exhibition Location: Lower & Upper Level The reception is around the posters and in the industrial exhibition.

Tuesday, 21st March 2023

8:30am - 10:30am	<u>digital-PCR</u> Location: <u>HS 14</u> Chair: Jim Huggett, NML at LGC, United Kingdom Chair: Afif Abdel Nour, QIAGEN, France 10 Years Of Digital MIQE, What Have We Learned? <u>Jim Huggett</u> National Measurement Laboratory, LGC, Queens Road, Teddington, TW11 0LY, United Kingdom Digital PCR For The Follow-up Of Patient With Cancer <u>Valérie Taly</u> Université Paris Cité, France Development of Advanced Droplet Digital PCR (ddPCR) Applications for the Clinical Lab <u>Gary Pestano</u>, Leisa Jackson, Sarah Kreston, Claire Gould, Janice Riley Biodesix, United States of America Achieve High-level Multiplexing Using 6-color Digital PCR With Robust Assay Designs And Partition Classification <u>Matthijs Vynck</u>¹, Rémi Dangla² 1: Ghent University, Belgium; 2: Stilla Technologies, France	<u>Liquid Biopsy & Circulating Nucleic Acids 1</u> Location: <u>HS 15</u> Chair: Mikael Kubista, TATAA Biocenter AB, Sweden Chair: Radek Sindelka, Institute of Biotechnology, Czech Republic Liquid Biopsy -- From Discovery to Clinical Implementation <u>Klaus Pantel</u> University Medical Center Hamburg-Eppendorf, Germany Maximizing Metastasis Insights: Using An Integrated Workflow Approach To Achieve Efficient CTC Enrichment With Targeted Enumeration For Versatile Downstream Applications <u>Adam, S Corner</u> Market Development, Digital Biology Group, Bio-Rad Laboratories A Development And Analysis Pipeline For MicroRNA Biomarker Signatures In Molecular Diagnostics Based On Circulating EVs <u>Michael W Pfaffl</u> Technical University of Munich, Germany Comparison Of Two Digital PCR Systems For The Analysis Of Liquid Biopsy Samples Of Patients Affected By Lung And Colorectal Cancer <u>Stefania Crucitta</u> University of Pisa, Italy
10:30am - 11:00am	<u>Coffee break in Foyer</u>	
11:00am - 12:30pm	Accuracy of Digital Polymerase Chain Reaction <u>Megan Cleveland</u>¹, Jim Huggett² 1: NIST, United States of America; 2: NML@LGC, United Kingdom Design and Validation of Precision dPCR assays <u>Robert Siöback</u>, Teo Lind, Alexandra Bergman, Mozghan Ghiami, Jonna Eriksson, Anna Aasman, Mikael Kubista TATAA Biocenter, Sweden Technical Comparison Of Quantitative, Digital And Real-time Digital PCR Instruments <u>David Gleerup</u>^{1,2}, Lien Gysens¹, Cindy De Baere¹, Ann Martens¹, Maarten Haspeslagh¹, Ward De Spiegelaere^{1,2} 1: Ghent University, Belgium; 2: Ghent University digital PCR consortium	Performance Evaluation of RNA Purification Kits and Blood Collection Tubes in the Extracellular RNA Quality Control (exRNAQC) Study <u>Jo Vandesompele</u>^{1,2} 1: Ghent University, Belgium; 2: exRNA consortium HepatomiR® - MicroRNA Biomarkers of Liver Function: from Discovery to Implementation as a Diagnostic Test to Support Management of Liver Cancer Patients. <u>Matthias Hackl</u>¹, Susanna Skalicky¹, Andreas Diendorfer¹, Marianne Pultar¹, David Pereyra³, Alice Assinger⁴, Patrick Starlinger² 1: TAmiRNA GmbH, Austria; 2: Department of Surgery, Division of Hepatobiliary and Pancreas Surgery, Mayo Clinic, Rochester, New York, USA; 3: Division of General Surgery, Department of Surgery, Medical University of Vienna, General Hospital of Vienna, Vienna, Austria; 4: Department of Vascular Biology and Thrombosis Research, Centre of Physiology and Pharmacology, Medical University of Vienna, Vienna, Austria New Perspectives For Liquid Profiling Of Circulating Nucleic Acids In Clinical Diagnostics <u>Stefan Holdenrieder</u> German Heart Centre Munich, Technical University Munich, Germany
12:30pm - 2:00pm	<u>Tuesday Lunch Poster Session</u> Location: <u>Lower Level</u> All posters will be shown!	<u>Lunch on Tuesday in Canteen</u> Location: <u>Mensa/Canteen</u> <u>Canteen at TUM School of Life Sciences</u> <u>Canteen menu today</u>

2:00pm - 4:00pm	Multi-Omics Biomarkers Location: HS 14 Chair: Jo Vandesompele, Ghent University, Belgium Chair: Markus List, Technical University of Munich, Germany Competing Endogenous RNAs As Biomarkers Of MiRNA Activity Markus Hoffmann¹, Fabio Boniolo¹, Leon Schwartz¹, Jan Baumbach⁵, Norman Roggendorf¹, Bahar Tercan³, Mauro Castro⁴, Gordon Robertson², Dieter Saur¹, Markus List¹ 1: Chair of Experimental Bioinformatics, Technical University of Munich, Germany; 2: Dxige Research Inc., Canada; 3: Institute for Systems Biology, USA; 4: Bioinformatics and Systems Biology Laboratory, Universidade Federal do Paraná, Brazil; 5: Chair of Computational Systems Biology, University of Hamburg, Hamburg, Germany Exploiting Tumor RNA-Sequencing Data For Prediction Of Immune Checkpoint Inhibition Response Pieter Mestdagh CellCarta, Belgium Exploring Novel Biomarkers Through the Lens of Single Cell Sequencing Philipp Becker Singleron, Germany Multi-omics Circulating Biomarker Profiling For Early Diagnosis Of Coronary Artery Disease Christa Noehammer¹, Iqra Yousaf¹, Jasmin Huber¹, Nina Gruber¹, Michaela Hendling¹, Gabriel Vignolle¹, Manuela Hofner¹, Walter Pulverer¹, Andreas Weinhäusel¹, Maximilian Tscharré², Franz Xaver Roithinger², Klemens Vierlinger¹ 1: AIT Austrian Institute of Technology GmbH, Austria; 2: Landesklinikum Wiener Neustadt, Austria	Liquid Biopsy & Circulating Nucleic Acids 2 Location: HS 15 Chair: Anders Ståhlberg, University of Gothenburg, Sweden Chair: Michael W Pfaffl, Technical University of Munich, Germany Two-Tailed PCR for Precision Diagnostics Mikael Kubista, Alexandra Bergman, Teo Lind, Mozghan Ghiami, Jonna Eriksson, Robert Sjöback TATAA Biocenter AB, Sweden Liquid Biopsies: Optimization and Sample Quality Controls for ctDNA Measurements Niels Pallisgaard¹, Catherine Goh² 1: Sjællands Universitetshospital Roskilde, Denmark; 2: PerkinElmer chemagen, Germany Tumour-guided Personalised Sequencing Assays For ctDNA Detection Stefan Filges, Gustav Johansson Simsen Diagnostics AB, Medicinaregatan 8, 41390 Gothenburg, Sweden. Novel NGS-based Proteomics Revolutionizes Biomarker Identification in Liquid Biopsies Sarantis Chlamydas, Stephan H. Bauer Olink Proteomics, Sweden
4:00pm - 4:30pm	Coffee break in Foyer	
4:30pm - 6:00pm	Real World multi-omics Not Lost In Clinical Translation Robert P. Loewe GeneSurge GmbH, Germany Simultaneous Interrogation of Small RNAs and Long RNAs from archival breast cancer FFPE samples using Next Generation Sequencing (NGS) Nish Kumar Bio-Rad Laboratories, Inc. Hercules CA, USA Curation and Integration of Single-cell RNA-Seq Data for Cross-study Analysis and Interpretation Frank Staubli, Jana Sponarova, Pavel Honsa, Stefan Bleuler, Philip Zimmermann NEBION AG, Switzerland	Use of Synthetic Reference Sequence Spike-In Controls to Increase Reliability of NGS Testing for Actionable Mutations in Circulating Tumor DNA James C. Willey University of Toledo, United States of America Clinical Applicability of Circulating Nucleic Acids Gabrielle Heilek, Bernhard Zimmermann Natera, United States of America Biological, Structural And Functional Aspects Of Circulating Nucleic Acids Abel J. Bronkhorst Technical University Munich, Germany

7:00pm - 11:00pm	 Event Dinner at Bräustüberl Weihenstephan Location: Bräustüberl Weihenstephan, Weihenstephaner Berg 10, 85354 Freising www.Bräustüberl-Weihenstephan.de A selection of international Buffets: Bavarian – Mediterranean – Asia – Asia meets Bavaria On all buffets you find Vegetarian & Vegan selections 10 pm – 2 am -- After Dinner Party – Music & Dancing & Cocktails & Beer & Wine
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Wednesday, 22nd March 2023

8:30am - 10:30am	<u>Advanced Molecular Diagnostics 1</u> Location: HS 14 Chair: Pieter Mestdag, CellCarta, Belgium Chair: Jens Björkman, TATAA Biocenter, Sweden Reworking qPCR as a Tool for Microbial Diagnostics Stephen Andrew Bustin Anglia Ruskin University, United Kingdom Simplified, Saliva-based PCR Testing for Greater Public Health Impact Anne Louise Wyllie Yale School of Public Health, New Haven, CT 06510, United States of America Novel Identification In Diverse Sample Types Through Direct Amplification Erik Wendlandt Integrated DNA Technologies, Manager of Core Oligo/PCR Application Development at Integrated DNA Technologies, Coralville, IA, USA Quantification with Spike DNA and Common Pitfalls of 16S rRNA Gene Amplicon Data Analysis in Microbiome Research Klaus Neuhaus Core Facility Microbiome, ZIEL Institute for Food & Health, Technische Universität München, Germany	<u>Data Analysis in qPCR & dPCR & NGS</u> Location: HS 15 Chair: Andreas Untergasser, University Heidelberg, Germany Chair: Philip Day, University of Manchester, United Kingdom Bioinformatics Tools For Ultra-sensitive Sequencing Data Using Unique Molecular Identifiers Tobias Österlund^{1,2}, Stefan Filges¹, Gustav Johansson¹, Anders Ståhlberg^{1,2} 1: University of Gothenburg, Sweden; 2: Sahlgrenska University Hospital, Sweden Enhancing transcript measurement via the Gini Index Philip Day, Steve O'Hagan University of Manchester, United Kingdom Gene Fusion Detection - more complex than you might assume David Langenberger ecSeq Bioinformatics GmbH, Germany Efficiency-Corrected PCR Quantification For Identification Of Prevalence And Load Of Respiratory Disease-Causing Agents In Feedlot Cattle Ian Marsh^{1,4}, Rebecca Barnewall^{2,3}, Thomas Williams^{2,3}, Paul Cusack^{2,5}, Narelle Sales⁴, Francesca Galea^{1,4}, Andrew Szentirmay^{1,4}, Jan Ruijter⁶, Maurice van den Hoff⁶, Jane Quinn^{2,3} 1: D'Central, Dural, New South Wales, Australia; 2: School of Agricultural, Environmental and Veterinary Sciences, Charles Sturt University, New South Wales, Australia; 3: Gulbali Institute for Agriculture, Water and the Environment, Wagga Wagga, New South Wales, Australia; 4: NSW DPI, Elizabeth Macarthur Agricultural Institute, Narellan, New South Wales, Australia; 5: Australian Livestock Production Services, Cowra, New South Wales, Australia; 6: Department of Medical Biology, Amsterdam University Medical Centres, Location Academic Medical Center, Amsterdam, Netherlands
10:30am - 11:00am	<u>Coffee break in Foyer</u>	
11:00am - 12:30pm	<u>Advanced Molecular Diagnostics 2</u> Location: HS 14 Chair: Pieter Mestdag, CellCarta, Belgium Chair: Jens Björkman, TATAA Biocenter, Sweden Digital PCR For The Quantification Of Common Wheat Content In Spelt Products Patrick Guertler¹, René Köppel², Hans-Ulrich Waiblinger³ 1: Bavarian Health and Food Safety Authority, Germany; 2: Food Control Authority of the Canton Zürich, Switzerland; 3: State Institute for Chemical and Veterinary Analysis, Germany	<u>MIQE & Quality Control in MDx 1</u> Location: HS 15 Chair: Jan M Ruijter, Amsterdam University Medical Centers, Netherlands, The Chair: Jan Hellemans, CellCarta, Belgium Genex For The Analysis Of QPCR And DPCR Data In Regulated Environments Mikael Kubista², Amin Forootan¹ 1: Multid Analyses AB, Sweden; 2: TATAA Biocenter AB QScript Ultra RT: A Next-Generation Reverse Transcriptase Platform To Break Cold-Chain Barriers And Democratize State Of The Art RNA Quantification Tools. David Schuster Quantabio, 100 Cummings Center Suite 407J, Beverly, MA 01915

	How Research Tools and Enzymes Became Fundamental Components of Molecular Diagnostic Solutions <u>Matthieu Lewis</u> Takara Bio, France A Novel QPCR Technology For Direct Quantification Of Methylations In Untreated DNA <u>Rasmus Koefoed Petersen</u> PentaBase, Denmark	Guidance for the Validation of qPCR/dPCR Assays in Clinical Research <u>Jan Hellemans</u> CellCarta, Belgium
12:30pm - 2:00pm	Wednesday Lunch Poster Session Location: <u>Lower Level</u> All posters will be shown!	Lunch on Wednesday in Canteen Location: <u>Mensa/Canteen</u> <u>Canteen at TUM School of Life Sciences</u> <u>Canteen menu today</u>
2:00pm - 4:00pm	Single-Cell & MicroGenomics Location: <u>HS 14</u> Chair: Michael W Pfaffl, Technical University of Munich, Germany Chair: <u>Pamela Pinzani</u>, University of Florence, Italy Sparsely Connected Autoencoders: A Multi-Purpose Tool for Single-Cell Omics Analysis <u>Luca Alessandri</u>, <u>Raffaele Calogero</u> University of Torino, Italy Molecular Characterization of Single Circulating Tumor Cells -- Challenges and Promise for Translation to the Clinic <u>Pamela Pinzani</u> University of Florence, Italy Healing as a Key Phase of Regeneration Studied by Bulk, Single-cell and Spatial Transcriptomic Analyses <u>Radek Sindelka</u>, Jiri Netusil, Daniel Kraus, Pavel Abaffy, Mikael Kubista Institute of Biotechnology, Czech Academy of Sciences, Czech Republic On the Analysis of Microchimerism Emiel Slaats¹, Michael C. Gruber¹, Katja Sallinger¹, Lilli Bonstingl¹, Amin El-Heliebi¹, Michael Eikmans², <u>Thomas Kroneis</u>¹ 1: Medical University of Graz, Austria; 2: Leiden University Medical Center, The Netherlands	MIQE 2: MIQE & Quality Control in MDx 2 Location: <u>HS 15</u> Chair: <u>Jan Hellemans</u>, CellCarta, Belgium Chair: <u>Jan M Ruijter</u>, Amsterdam University Medical Centers, NL One More Time: Do Not Ignore The Amplification Efficiency! <u>Jan M Ruijter</u>¹, <u>Andreas Untergasser</u>², <u>Maurice JB van den Hoff</u>¹ 1: Amsterdam University Medical Centers, Netherlands, The; 2: Zentrum für Molekulare Biologie der Universität Heidelberg, Im Neuenheimer Feld 329, D-69120 Heidelberg, Germany Absolute Quantification of Estimated Copy Number Without a Standard Curve <u>Andreas Untergasser</u>^{1,2}, <u>Jan M Ruijter</u>³, <u>Vladimir Benes</u>², <u>Maurice J. B. van den Hoff</u>³ 1: Zentrum für Molekulare Biologie der Universität Heidelberg, Im Neuenheimer Feld 329, D-69120 Heidelberg, Germany; 2: EMBL, Genomics Core Facility, D-69117 Heidelberg, Germany; 3: Amsterdam University Medical Centers, location AMC, Dept Medical Biology, Meibergdreef 15, 110AZ Amsterdam, The Netherlands Assessing Nucleic Acid-based Therapeutics – Fully Integrated Laboratory Workflow for Regulated Bioanalysis <u>Jens Björkman</u>, Maria Janeh, Oskar Johansson, Elina Ekedahl, Sofia Adolfsson TATAA Biocenter, Sweden Importance of Quality Control of <i>In Vitro</i> Transcribed RNA <u>Eva Graf</u>¹, Bettina Strauch¹, Denise Warzak², Chava Pocernich², Lisa Houston² 1: Agilent, Waldbronn, Germany; 2: Agilent, Ankeny, Iowa, U.S.A.
4:00pm - 4:30pm	Farewell Location: <u>HS 14</u> Chair: Michael W Pfaffl, Technical University of Munich, Germany	

Thursday & Friday, 23rd & 24th March 2023

9:00am - 5:00pm   	PCR Workshops http://workshops.Gene-Quantification-2023.events The workshops are aimed at giving participants a deep and objective understanding of real-time quantitative PCR, biostatistics, expression profiling, digital-PCR, and their applications. The courses are intended for academic or industrial persons considering working with qPCR and digital-PCR or scientists currently working with these technologies seeking a deeper knowledge. All workshops offer extensive hands-on training by PCR or NGS experts in the field. Workshop topics: • Digital-PCR -- 2-day course hosted by Bio-Rad • Basic hands-on qPCR -- 2-day course hosted by TATAA Biocenter • microRNA Analysis -- 2-day course hosted by TATAA Biocenter • Web-based qPCR data analysis -- 1-day course (only on Thursday) hosted by Dr A Untergasser, Dr MJB van den Hoff and Dr JM Ruijter
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Poster Agenda

Time:

Monday, 20/Mar/2023: 6:00pm - 10:00pm

Tuesday, 21/Mar/2023: 12:30pm - 2:00pm

Wednesday, 22/Mar/2023: 12:30pm - 2:00pm

All posters will be presented in all three sessions!

Location:

ZHG Lower Level

Main Lecture Hall Building

Poster Sessions:

- Digital-PCR: Po-01 – Po-21
- Next Generation Sequencing: Po-22 – Po-33
- Liquid Biopsy: Po-34 – Po-50
- Bioinformatics: Po-51 – Po-55
- Spatial Transcriptomics: Po-56 – Po-59
- Advanced Molecular Diagnostics: Po-60 – Po-75
- Clinical Diagnostics & Sars-Cov-2: Po-76 – Po-82

Poster Session – Digital-PCR: Po-01 – Po-21

Po-01

Development of a Digital PCR Method to Detect and Quantify a Specific SNV in a Commercially Relevant Oilseed Rape Variety

Sophia Edelmann, Jörn Lämke, Kathrin Lieske, Joachim Mankertz, Christopher Weidner

Federal Office of Consumer Protection and Food Safety (BVL), Berlin, Germany; sophia.edelmann@bvl.bund.de

Po-02

Accurate NGS Library Quantification using Nanoplate Digital PCR

Ronny Kellner, Sherina Edward, Claudia Kappmeier, Colin Donohoe, Özlem Karalay, Domenica Martorana, Daniel Lofgren, Andreas Hecker, Francesca Di Pasquale, Andreas Missel

QIAGEN GmbH, Germany; ronny.kellner@qiagen.com

Po-03

Digital PCR For Fast Standardisation Of Molecular Diagnostic Tests During Pathogen Outbreaks

Samreen Falak¹, Denise M O'Sullivan^{2,7}, Megan H Cleveland³, Simon Cowen², Eloise J Busby², Alison S Devonshire², Esmeralda Valiente¹, Martin Kammel^{4,5,6}, Hans-Peter Grunert⁶, Ulf Dühring⁶, Heinz Zeichhardt^{4,5,6}, Andreas Kummrow¹, Peter M Vallone³, Rainer Macdonald¹, Jim F Huggett^{2,7}

¹Physikalisch-Technische Bundesanstalt (PTB), Berlin, Germany; ²NML, LGC, London, UK; ³National Institute of Standards and Technology, Gaithersburg, Maryland, USA; ⁴INSTAND e.V. - Society for Promoting Quality Assurance in Medical Laboratories, Duesseldorf, Germany; ⁵IQVD GmbH – Institut fuer Qualitaetssicherung in der Virusdiagnostik, Berlin, Germany; ⁶GBD Gesellschaft fuer Biotechnologische Diagnostik mbH, Berlin, Germany; ⁷School of Biosciences & Medicine, University of Surrey, Guildford, UK; samreen.falak@ptb.de

Po-04

A Novel Drop-Off Digital PCR Assay for CXCR4 Mutations Detection In IgM-gammopathies

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Po-05

Absolute Quantification of miRNAs with High Accuracy and Precision Using Digital PCR

Domenica Martorana, Jonathan Thorn, Mario Quinto, Colin Donohoe, **Francesca Di Pasquale**, Oezlem Karalay, Ronny Kellner, Andreas Missel, Daniel Lofgren, Andreas Hecker, Marie-Louise Lunn

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Po-06**Transfer Of Commercial qPCR Assays Onto The QIAcuity dPCR Platform**

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Po-07**Accurate and Sensitive Detection of Microbial DNA and RNA Targets using Nanoplate dPCR**

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Po-08**Counting Whole Cells with ddPCR**

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Po-09**Detection of Rare Events Using QIAcuity Digital PCR System**

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Po-10**Quantification and Qualification of Adeno-associated Virus (AAV) Using Dedicated CGT Assays and the QIAcuity Digital PCR System**

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Po-11**Correlation Of SARS-CoV-2 RNA and Nucleocapsid Concentrations in Samples Used in INSTAND External Quality Assessment Schemes**

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Po-12**Direct Quantification of Residual Host Cell DNA using QIAcuity Digital PCR Platform**

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Po-13**Flexible Methods For Accurate Standard Error Calculation In Digital PCR**

Yao Chen^{1,2}, Ward De Spiegelaere^{2,3}, Wim Trypsteen^{2,4}, David Gleerup^{2,3}, Jo Vandesompele^{2,5,6,7}, Olivier Thas^{1,2,8,9}
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Po-14**The Impact Of Template Addition Volume On Sensitivity in Digital PCR**

Miriam Hesse, Özlem Karalay, Ronny Kellner, Domenica Martorana, Colin Donohoe, Andreas Hecker, Daniel Lofgren, Francesca Di Pasquale, Andreas Missel
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Po-15**GLP-compliant Assay Validation For Biodistribution And Vector Shedding Studies: Droplet Digital PCR And Quantitative PCR**

Natalia Loibl, Dorothee Lambert, Sophia Groh, Christian Reuter, Benjamin Rossa, Sonja Vanderhaeghen
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Po-16**Two-tailed PCR Interrogating DNA Methylation Status Using Digital PCR**

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Po-17**Wastewater-Based Epidemiology Workflows With QIAcuity Digital PCR**

Colin Donohoe, Domenica Martorana, Oezlem Karalay, Ronny Kellner, Dominic O'Neil, Tanya Sperling, Andreas Hecker, Daniel Lofgren, Andreas Missel, Francesca Di Pasquale
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Po-18**Partition Classification In Digital PCR: A Decade Of Method Development****Matthijs Vynck¹, Yao Chen¹, David Gleeurup¹, Jo Vandesompele¹, Wim Trypsteen¹, Antoon Lievens², Olivier Thas³, Ward De Spiegelaere¹**¹Ghent University, Belgium; ²BASF Innovation Center Ghent, Belgium; ³Ghent University, Belgium; Hasselt University, Belgium; University of Wollongong, Australia; matthijs.vynck@ugent.be**Po-19****Measuring DNA Quality by Digital PCR Using Probability Calculations****David Gleeurup, Yao Chen, Willem Van Snippenberg, Olivier Thas, Wim Trypsteen, Ward De Spiegelaere**Ghent University, Belgium; ward.despiegelaere@ugent.be**Po-20****Vericheck ddPCR Mycoplasma Detection Kit: Probe-based Mycoplasma Detection to Reduce False-Positive Results****Mackenzie Scherr, Dipika Gurnani, Steve Jones, Marco Giorgio Bianchi**Bio-Rad Laboratories, Italy; marco_bianchi@bio-rad.com**Po-21****Novel ddPCR assay to Quantify Residual HEK293 DNA****Lovedeep Grewal, Nathan Sepulveda, Mackenzie Scherr, Daniela Beltran-Hernandez, Marco Giorgio Bianchi**Bio-Rad Laboratories, Italy; marco_bianchi@bio-rad.com**Poster Session – Next Generation Sequencing: Po-22 – Po-33****Po-22****Combining NGS and qPCR Methods for Skin Microbiome Research****Amedeo de Tomassi¹, Anna Reiter¹, Matthias Reiger¹, Claudia Traidl-Hoffmann^{1,2,3,4}, Avidan Neumann^{1,2}, Claudia Hülpmusch^{1,3}**¹Environmental Medicine, Faculty of Medicine, University of Augsburg, Augsburg, Germany; ²Institute of Environmental Medicine, Helmholtz Zentrum München, Augsburg, Germany; ³CK CARE, Christine-Kühne Center for Allergy Research and Education, Davos, Switzerland; ⁴ZIEL - Institute for Food and Health, Technical University of Munich, Freising, Germany; amedeo.detomassi@tum.de**Po-23****Automated Walk Away NGS Sample Preparation Using A Flexible Library Prep System With Enhanced Error Correction****Saharnaz Bigdeli¹, Jan Godoski¹, Denise Rhodes¹, Brian Vaughan¹, Ryan Aguilar¹, Bernd Buehler¹, Bahram Arezi¹, Ji Zhu², Ronda Allen², Ossian Saris³**¹Agilent Technologies, La Jolla, CA, USA; ²Agilent Technologies, Santa Clara, CA, USA; ³Agilent Technologies, Finland; ossian.saris@agilent.com**Po-24****Digital RNA Sequencing Using Unique Molecular Identifiers****Manuel Luna Santamaría^{1,2}, Anders Ståhlberg^{1,2,3}**¹Sahlgrenska Center for Cancer Research, Department of Laboratory Medicine, Institute of Biomedicine, Sahlgrenska Academy at University of Gothenburg, Gothenburg, Sweden.; ²Wallenberg Centre for Molecular and Translational Medicine, University of Gothenburg, Gothenburg, Sweden.; ³Region Västra Götaland, Sahlgrenska University Hospital, Department of Clinical Genetics and Genomics, Gothenburg, Sweden; manuel.marceliano.luna.santa-maria@gu.se**Po-25****Development Of A System For Preimplantation Genetic Testing Of Chromosomal Aneuploidies (PGT-A) By Next Generation Sequencing****Rebekka Jaissle¹, Konstantin Ignatov², Maxim Anisimenko², Dmitry Shtokalo³, Sergei Kovalenko¹**¹BIORON GmbH, Germany; ²Biolink Ltd, Russia; ³Novel Software Systems, Russia; jaissle@bioron.net**Po-26****Efficient Gene Detection For Total RNA-seq By Optimized Priming****Julia Micheel^{1,2}, Aram Safrastyan^{1,2}, Damian Wollny^{1,2,3}**¹RNA Bioinformatics/High Throughput Analysis, Friedrich Schiller University Jena, Germany; ²Leibniz Institute on Aging-Fritz Lipmann Institute (FLI), Jena, Germany; ³Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany; julia.micheel@uni-jena.de**Po-27****SparQ mRNA-Seq: Consistent And High-Quality mRNA Library Preparation From Both Abundant And Limiting Samples.****Denisse Tafur, Kelsey Conley, Mohamed Aitichou, Ryan Heller, Brian Komorous, David Schuster**Quantabio, 100 Cummings Center Suite 407J, Beverly, MA 01915; Dave.Schuster@quantabio.com**Po-28****Streamlined And High Accuracy Whole Genome And Transcriptome Sequencing Using Singular Genomics G4 Platform And Quantabio SparQ Library Prep Kits****Subrata Panja¹, Kelsey Conley¹, Mohamed Aitichou¹, Ryan Shultzaberger², Sabrina Shore², David Schuster¹**¹Quantabio, 100 Cummings Center Suite 407J, Beverly, MA 01915; ²Singular Genomics, 3010 Science Park Rd, San Diego, CA 92122; Dave.Schuster@quantabio.com**Po-29****Deep Dive Into the Microbial World With Metagenomic Analyses at IMGM Laboratories GmbH****Sophia Groh, Sonja Vanderhaeghen, Dorothee Lambert, Natalia Loibl, Christian Reuter, Benjamin Rossa**IMGM Laboratories GmbH, Germany; sophia.groh@medicover.com

Po-30**Improved RNA-Seq Library Prep: Further Simplifying Whole Transcriptome Library Prep Using Modifications To The SparQ RNA-Seq HMR Kit****Subrata Panja**, Emily Putnam, Mohamed Ait Ichou, David SchusterQuantabio, Beverly, Massachusetts, USA; subrata.panja@quantabio.com**Po-31****INtegrated and STANDardized NGS Workflows FOR Personalized Therapy (INSTAND-NGS4P)****Stefania Gelmini**, **Adele Calabri**, Irene Mancini, Lisa Simi, Pamela PinzaniUniversity of Florence, Italy; adele.calabri@unifi.it**Po-32****Improving PCR Amplification Of Different NGS Methods Using RepliQa HiFi ToughMix****Subrata Panja**, Ryan Heller, Mohamed Aitichou, Brian Komorous, David SchusterQuantabio, 100 Cummings Center Suite 407J, Beverly, MA 01915; subrata.panja@quantabio.com**Po-33****Overcoming Limitations of RNA-Seq Library Construction from FFPE Samples Using a Novel Workflow****Nish Kumar**, Deanna K. Woo, Srikanth Perike, Alexander Hoefler, Xiangdong Meng, Linda Lingelbach, Angelica Olcott, Elizabeth Jordan DreskinBio-Rad Laboratories, Inc., Life Science Group, Hercules, CA, USA; nish_kumar@bio-rad.com**Poster Session – Liquid Biopsy: Po-34 – Po-50****Po-34****Effective, Scalable Chemistry for Purification of Circulating, Cell-free DNA (ccfDNA) from Plasma with Less Quantitation Method Bias****Marjeta Urh**¹, Douglas White¹, Doug Wieczorek¹, Eric Vincent¹, Douglas Horejsh¹, **Martin Roßmanith**²¹Promega Corporation, USA; ²Promega GmbH, Germany; martin.rossmanith@promega.com**Po-35****LabChip® GX Touch™ cfdNA Assay for High Throughput Analysis of Cell-free DNA****Gayatri P. Gautam**¹, Dipti Mehta¹, James D. White¹, **Catherine Goh**²¹PerkinElmer Inc., Hopkinton MA, USA; ²PerkinElmer Chemagen, Germany; catherine.goh@perkinelmer.com**Po-36****Circulating Cell-Free DNA Purification with the chemagic™ cfdNA kits****Catherine Goh**, Serhan Önder, Tim Weissbach, Janina Gerhards, Uwe JaentgesPerkinElmer chemagen, Germany; catherine.goh@perkinelmer.com**Po-37****Monitoring Treatment Efficacy in Sarcomas using Personalized ctDNA Panels****Mandy Escobar**, Christoffer Vannas, Daniel Andersson, Pia Mouhanna, Tobias Österlund, Henrik Fagman, Anders StåhlbergUniversity of Gothenburg, Sweden; mandy.escobar@qu.se**Po-38****Monitoring the Impact of Pre-analytical Parameters on cfdNA Quality****Eva Graf**, Alisa BergerAgilent, Waldbronn, Germany; eva.graf@agilent.com**Po-39****Preanalytical Parameters and Quality Controls in Cell-Free DNA Analysis Using Liquid Biopsy****Daniel Andersson**¹, Helena Kristiansson^{2,3}, Åsa Torinsson Naluai¹, Anders Ståhlberg^{1,2,3}¹Sahlgrenska Center for Cancer Research, Department of Laboratory Medicine, Institute of Biomedicine, Sahlgrenska Academy, University of Gothenburg, 413 90 Gothenburg, Sweden.; ²Wallenberg Centre for Molecular and Translational Medicine, University of Gothenburg, 413 90 Gothenburg, Sweden.; ³Department of Clinical Genetics and Genomics, Sahlgrenska University Hospital, 413 45 Gothenburg, Sweden.; daniel.andersson.3@qu.se**Po-40****Monitoring Circulating Tumor DNA during Immunotherapy in Non-Small Cell Lung Cancer Patients by Targeted NGS: Preliminary Data on the CORELAB Project****Adele Calabri**¹, Irene Mancini¹, Lisa Simi¹, Vieri Scotti², Emanuela Olmetto², Stefania Gelmini¹, Pamela Pinzani¹¹University of Florence, Italy; ²Careggi Teaching Hospital, Florence, Italy; adele.calabri@unifi.it**Po-41****BaseBlocker™ Technology enables Sensitive Monitoring of Somatic Mutations in cfdNA using qPCR****Dilan Ardik**, Anna Lahn Sørensen, Michael Børgesen, Ulf Bech Christensen, **Rasmus Koefoed Petersen**PentaBase A/S, Petersmindevej 1A, 5000 Odense C, Denmark; rkp@pentabase.com

Po-42**Discover Biomarkers Using IMG's Extensive Experience In Molecular Genetics**

Benjamin Rossa, Christian Reuter, Dorothee Lambert, Natalia Loibl, Sophia Groh, Sonja Vanderhaeghen
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Po-43**A Long Noncoding RNA-based Liquid Biopsy Platform For Biomarker-driven Cell-state Profiling And Patient Screening For Clinical Trials**

Amela Jusic¹, Chi Tam Nguyen¹, Clair Roberts², Chih-Liang Tien², Violeta Castelo-Székely¹, Rudi Micheletti², Maria Marcuello¹, Marco Mina¹, Ana Catarina Silva¹, Daniel Blessing^{1,2}, Samir Ounzain^{1,2}

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Po-44**Comparison Of EVs Associated MiRNA Profiles In 2D And 3D Primary Glioblastoma Models**

Martina Schuster¹, Frank K. Braun², Dapi Meng-Lin Chiang³, Benedikt Kirchner³, Christian Grätz³, Markus J. Riemenschneider², Michael W. Pfaffl³, Marlene Reithmair¹

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Po-45**Comparative Characterisation And Absolute Quantitation Of Small RNAs Associated With RNA-induced Silencing Complexes (RISCs) In Cells, Plasma, Urine, And Extracellular Vesicles**

Kseniya Khamina-Kotisch¹, Magdalena Mecking¹, Barbara Bachmann², Moritz Weigl¹, Matthias Hackl¹

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Po-46**Impact Of Reference Material On Limit Of Detection In Analytical Performance Evaluation Of Liquid Biopsy NGS Assays**

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Po-47**Exploring Scalable Isolation Methods for Urinary Extracellular Vesicles Targeting Downstream RNA Analytics**

Karina Andrea Barreiro^{1,2}, Jenni Karttunen¹, Antti Rannikko^{3,4}, Per-Henrik Groop^{5,6,7,8}, Maija Puhka^{1,2}

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Po-48**The Genesis Cell Isolation System: A Platform for Automated Enumeration and Comprehensive Enrichment of CTCs For Downstream Molecular and Cellular Applications**

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Po-49**Identification of novel circulating MicroRNA Biomarkers of Central Nervous System Damage by absolute quantitation using a MicroRNA Next-Generation Sequencing Discovery (miND) Assay**

Kseniya Khamina-Kotisch¹, Carolin Otto², Klemens Ruprecht², Matthias Hackl¹

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Po-50**Simultaneous Quantification of Gene Expression and Cell Surface Glycosylation in Single Cells**

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Poster Session – Bioinformatics: Po-51 - Po-55**Po-51****You've Got So Many Machines, PCRedux - A Quantitative PCR Machine Learning Toolkit**

Stefan Rödiger

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Po-52**Simplifying Small RNA Seq Data Analysis with caRNAge - Comprehensive Analysis of small RNA Gene Expression****Benedikt Kirchner¹**, Johannes Kersting², Michael W Pfaffl¹¹Division of Animal Physiology and Immunology, School of Life Sciences Weihenstephan, Technical University Munich, Germany; ²Research Group Big Data in Biomedicine, Technical University Munich, Munich, Germany; bkirchner@tum.de**Po-53****Identification Of Distinct And Common Subpopulations Of Myxoid Liposarcoma And Ewing Sarcoma Cells Using Self Organizing Maps****Amin Forootan**Multid Analyses AB, Sweden; amin@multid.se**Po-54****ExonSurfer: A Web-tool to Design Primers at Exon-exon Junctions****Pablo Monfort-Lanzas^{1,2}**, **Elena Cristina Rusu^{1,3,4}**, Lucia Parráková¹, Dietmar Rieder², Peter Lackner⁵, Hubert Hackl², Carmen Ivorra³, Johanna M. Gostner¹¹Institute of Medical Biochemistry, Biocenter, Medical University of Innsbruck, Innsbruck, Austria; ²Institute of Bioinformatics, Biocenter, Medical University of Innsbruck, Innsbruck, Austria; ³SeqPlexing SL, Paterna, Spain; ⁴Institute of Integrative Systems Biology (I2Sysbio), University of Valencia and CSIC, Paterna, Spain; ⁵Department of Biosciences and Medical Biology, University of Salzburg, Austria; ecrisru@alumni.uv.es**Po-55****Network Analysis And Predictive Modeling Of Hepatocellular Carcinoma Liquid Biopsy Data****Aram Safrastyan^{1,2}**, Damian Wollny^{1,2,3}¹RNA Bioinformatics and High Throughput Analysis, Friedrich Schiller University Jena, Jena, Germany; ²Leibniz Institute on Aging-Fritz Lipmann Institute (FLI), Jena, Germany; ³Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany; aram.safrastyan@uni-jena.de**Poster Session – Spatial Transcriptomics: Po-56 - Po-59****Po-56****The Development and Performance of the GeoMx® Spatial Proteogenomic Workflow for the Detection of Both RNA and Protein on a Single FFPE Slide****Mathias Holpert**, Shilah Bonnett, Joseph BeechemNanoString Technologies, United States of America; mholpert@nanosttring.com**Po-57****Spatial Insights into Tumor Immune Evasion Illuminated with the CosMx™ Spatial Molecular Imager Platform****Mathias Holpert**, Jason Reeves, Joseph BeechemNanoString Technologies, United States of America; mholpert@nanosttring.com**Po-58****Multimodal Cell Segmentation for Spatial in-situ Imaging of Tissues****Mathias Holpert**, Lidan Wu, Aster Wardhani, Joseph BeechemNanoString Technologies, United States of America; mholpert@nanosttring.com**Po-59****Powerful Spatial Tool Reveals Neuronal Microenvironment Changes During Neurodegeneration****Bin Wang**, Renchao Chen, Timothy Wiggin, Nicolas Fernandez, Yijia Sun, Yuan Cai, Yi Sun, Leiam Colbert, George Emanuel, Jiang HeVizgen, United States of America; bin.wang@vizgen.com**Poster Session – Advanced Molecular Diagnostics: Po-60 - Po-75****Po-60****Adding Accuracy, Speed And Robustness To Gene Regulation Analyses****Domenica Martorana**, Anne Schieren, **Francesca Di Pasquale**, Anna HarderQIAGEN, Germany; francesca.dipasquale@qiagen.com**Po-61****Automated Nucleic Acid Purification With PerkinElmer Chemagic™ Technology And Implementation In German National Cohort (NAKO) Health Study****Catherine Goh¹**, Marchela Pandelova², Annette Peters², Christian Gieger², Harald Grallert², Janina Gerhards¹, Uwe Jaentges¹¹PerkinElmer Chemagen, Germany; ²Helmholtz Zentrum München, Germany; catherine.goh@perkinelmer.com**Po-62****Characterization Of Bst Exo(-) DNA Polymerase Mutants With An Improved Salt Tolerance****Zsolt Lőrincz**, Melinda Petres, Benjámín Kiss, Peter Krajcsi, Beáta Flachner, István HajdúTargetEx LLC, Hungary; lorincz@targetex.com

Po-63**Enzyme Engineering: Directed Evolution and Rational Design for Enhanced DNA Polymerases and Their Applications****Audrey Crousilles¹, Ramon Kranaster², Laura Vaahtoranta¹, Giuseppina Sannino², Kevin Eboigbodin¹**¹Oy Medix Biochemica Ab, Klovipellontie 3, FI-02180 Espoo, Finland; ²myPOLs Biotec GmbH, Byk-Gulden-Strasse 2, 78467 Konstanz, Germany; audrey.crousilles@medixbiochemica.com**Po-64****Structural And Biochemical Characterization Of Human Skeletal Muscle Mutations In Tropomyosin At The Critical Residues R90,R167 And R244.****Saeed Ahmed Asiri¹, Mohammed Elmezugli²**¹Najran University; ²Kings College London; saaasiri@nu.edu.sa**Po-65****The Novel Optical Design of the Agilent Aria Real-Time PCR System Eliminates the Need for a Passive Reference Dye****Kristen Chen¹, Whitney Pike², Götz Frommer³**¹Agilent Technologies, La Jolla, CA, USA; ²Agilent Technologies, Ankeny, Iowa, USA; ³Agilent Technologies Deutschland GmbH, Germany; goetz_frommer@agilent.com**Po-66****Improved Applications for RNA Analysis Incorporating qScript Ultra, a Novel, Engineered, Inhibitor Tolerant Reverse Transcriptase Enabling Rapid, Full-length Synthesis of cDNA at Elevated Temperatures****Ryan Charles Heller, David Schuster**Quantabio, United States of America; ryan.heller@quantabio.com**Po-67****Investigating Of Role Of Piwil2 Gene In Medulloblastoma (Childhood Brain Tumour) Development****Mohammed Alshehri**Najran university, Saudi Arabia; maab515@gmail.com**Po-68****In-House Validation Of Detection Assays Specific For Genome-Edited Soy****Steffen Heinz, Daniel Neusius, Armin Baiker, Patrick Guertler**Bavarian Health and Food Safety Authority, Veterinärstr. 2, 85764 Oberschleißheim, Germany; steffen.heinz@lgl.bayern.de**Po-69****Preliminary Analysis of Plasma MiRNA RT-PCR Panel in Response To Acute Maximal Aerobic Exercise In Brazilian Elite Long Distance Runners****Caleb G M Santos¹, Dailson Paulucio², Rodolfo Velasque², Camilla Geyer¹, Raphael Xavier², Carlos A R Sanchez², Fernando A M S Pompeu²**¹Brazilian Army Institute of Biology, Brazil; ²LADEBIO, Brazil; calebquedes@gmail.com**Po-70****Expression of Adipokine Family Members in Bovine Corpus Luteum During the Estrous Cycle and Pregnancy****Granit Thaqi¹, Bajram Berisha^{1,2}, Michael Pfaffl¹**¹TUM School of Life Sciences, Germany; ²University of Prishtina, Faculty of Agriculture and Veterinary, Kosovo; granit.thaqi@tum.de**Po-71****Simultaneous Profiling Of SNP Genotyping And Copy Number Variation Using 96 Assays In A Nanofluidic Platform For Pharmacogenomics Studies****Hui Ren, Jian Qin, Win Hwang, Arnaldo Barican, Greg Harris, Tom Goralski, Julie Alipaz, Charles Park, David King, Naveen Ramalingam, Jordan Moore, Amit Khanna**Standard BioTools, United Kingdom; jordan.moore@standardbio.com**Po-72****Two-tailed Reverse Transcription Quantitative PCR For Detection Of Fusion Oncogenes Targeting Heavily Degraded RNA In Ewing Sarcoma****Peter Micallef¹, Manuel Luna Santamaria^{1,2}, Daniel Andersson¹, Tobias Österlund^{1,3}, Ida Rahmqvist⁵, Martin Dalin^{2,4,5}, Anders Ståhlberg^{1,2,3}**¹Sahlgrenska Center for Cancer Research, Department of Laboratory Medicine, Institute of Biomedicine, Sahlgrenska Academy, University of Gothenburg, 413 90 Gothenburg, Sweden; ²Wallenberg Centre for Molecular and Translational Medicine, University of Gothenburg, 413 90 Gothenburg, Sweden; ³Department of Clinical Genetics and Genomics, Sahlgrenska University Hospital, 413 45 Gothenburg, Sweden; ⁴Sahlgrenska Center for Cancer Research, Department of Pediatrics, Institute of Clinical Sciences, Sahlgrenska Academy, University of Gothenburg, 413 90 Gothenburg, Sweden; ⁵Queen Silvia Children's Hospital, Sahlgrenska University Hospital, 416 85 Gothenburg, Sweden; peter.micallef@gu.se**Po-73****High Resolution Melt Analysis for Sensitive Screening of Somatic Mutations in Endometrial Cancer****Mia de Laurent Clemmensen¹, Tim Svenstrup Poulsen², Ulf Bech Christensen¹, Rasmus Koefoed Petersen¹, Estrid Høgdall²**¹PentaBase A/S, Odense, Denmark; ²Department of Pathology, Herlev Hospital, Herlev, Denmark; mlc@pentabase.com**Po-74****Modified Oligonucleotides for Developing qPCR Assays with Increased Affinity, Sensitivity and Specificity****Mads Mulberg¹, Mia de Laurent Clemmensen², Artemis Stergiou¹, Rasmus Koefoed Petersen², Ulf Bech Christensen³**¹PentaBase A/S, Petersmindevej 1A, 5000 Odense C, Denmark; Department of Oligo Production; ²PentaBase A/S, Petersmindevej 1A, 5000 Odense C, Denmark; Research and Development; ³PentaBase A/S, Petersmindevej 1A, 5000 Odense C, Denmark; mwm@pentabase.com

Po-75**Sample Preservation For Multi-omics Studies, For Tissues, Biofluids And Single Cells****Mikhail Claeys**, Ludwig Verhasselt, Liesbeth Faes, Ilse Jonckheere, Jo VandesompeleInActiv Blue bv, Industriepark Oost 2A, B-8730 Beernem, Belgium; mikhail.claeys@inactivblue.com**Poster Session – Clinical Diagnostics & Sars-Cov-2: Po-76 - Po-82****Po-76****Universally Applicable, Short-Term Cell Culture-Based Assays For The Detection Of Infectious Virus Particles****Sevana Khaloian Sarnaghi**¹, Anja Ehrhardt², Lina Scholz¹, Maren Haase¹, Melanie Pavlovic¹, Patrick Guertler¹, Steffen Heinz¹, Ulrich Busch¹, Ingrid Huber¹, Armin Baiker¹¹Bavarian Health and Food Safety Authority (LGL), LH7 – Molecular Biology and Genetic Engineering, 85764 Oberschleissheim, Germany; ²Virology and Microbiology, Center for Biomedical Education and Research (ZBAF), Witten/Herdecke University, 58453 Witten, Germany; sevana.khaloian@lgl.bayern.de**Po-77****QIAprep&: An Innovative Method Combining Liquid-based Sample Preparation and Multiplex Real-time PCR for SARS-CoV-2 Detection and Beyond****Javier Gómez-Zeledón**, Katharina Uhr, Miroslav Vraneš, Andrea Janosch, Charline Bemann, Dorothee Unt, Hannes Thomaschik, Niklas Mathenia, Philipp Rink, Stefan Cornelius, Anna Harder, Dirk Schacht, Norbert Hochstein, Ralf PeistQIAGEN GmbH, Germany; javier.gomez@qiagen.com**Po-78****SARS-CoV-2 Detection Using SD-Polymerase – New Possibilities For Fast And Sensitive Detection****Konstantin Ignatov**^{1,2}, **Marlen Görlacher**³, Rebekka Jaissle³, Sergei Kovalenko³¹Vavilov Institute of General Genetics, Russian Academy of Sciences, Moscow, Russia; ²Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, Moscow, Russia; ³BIORON GmbH, Römerberg, Germany; goerlacher@bioron.net**Po-79****Reliable SARS-CoV-2 Surveillance – a Long-term Solution****Katharina Uhr**, Norbert Hochstein, Hannes Thomaschik, Dorothee Unt, Charline Bemann, Anna Harder, Javier Gómez-Zeledón, Ronny Kellner, Colin Donohoe, Dirk SchachtQiagen, Germany; katharina.uhr@qiagen.com**Po-80****A Convenient Nucleic Acid Extraction Procedure for Wastewater-based Epidemiology****Subhanjan Mondal**, **Nathan Feirer**, Brigitta Saul, Dongping Ma, Said Goueli, Sameer MoorjiPromega Corporation, USA; nathan.feirer@promega.com**Po-81****Development of RNA Standards for Quantification of SARS-CoV-2 and PMMoV by RT-qPCR for Wastewater Surveillance****Subhanjan Mondal**, **Nathan Feirer**, Dongping Ma, **Brigitta Saul**Promega Corporation, USA; brigitta.saul@promega.com**Po-82****Syndromic Testing for Medium Throughput in One Workflow: Flexible Molecular Analysis with the MODAPLEX Platform****Christoph Schanzenbach**, Caroline Rothe, Matthias PreusslerBiotype GmbH, Germany; c.schanzenbach@biotype.de

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