

Program of the Annual AGD Meeting 2020, Dec. 17–18

Thursday, December 17

12:00–13:30 New tools in genomics – Sponsors' Satellite Session

Session Chair: Udo Schimmel, Member of the Program Committee

- 12:00–12:15 **Udo Schimmel** (Alphamatrix Biotech GmbH, Rödermark, Germany)
Welcome and introduction into the virtual meeting space
- 12:15–12:30 **Hannes Arnold** (10x Genomics B.V., Leiden, The Netherlands)
"10x Genomics Chromium multiomics single cell analysis"
- 12:30–12:45 **Peter Mouritzen** (Samplix ApS, Herlev, Denmark)
"Xdrop™ Technology for targeted enrichment of genomic regions for long- and short-read sequencing"
- 12:45–13:00 **Xiangyu Rao** (Integrated DNA Technologies)
"Reliable detection of low-frequency variants in highly degraded DNA and RNA samples"
- 13:00–13:15 **Jochen Seggewiß** (TWIST Bioscience)
"Uniformity is the key - Twist Bioscience's superior flexible NGS solutions"
- 13:15–13:30 **Daniel Liber** (Takara Bio Europe)
"SMARTer™ ICELL8®: The Open Platform for Single-Cell Genomics"

13:30–14:00 Coffee Break

The following companies' sponsorship is gratefully acknowledged

10x Genomics

Molecular Health GmbH

Bionano Genomics Inc.

Samplix ApS

Illumina GmbH

Takara Bio Europe, Takeda/Shire

Integrated DNA Technologies

TWIST Bioscience

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14:00–14:15 Welcome and Opening of Symposium

Peter Nürnberg, President of AGD e.V.

Peter Krawitz, Chair of the Program Committee

14:15–16:30 Session 1 – The power of genomics in the COVID-19 combat

Session Chair: Peter Nürnberg, Cologne Center for Genomics, Germany

- 14:15–14:30 **Joachim Schultze** (DZNE e.V., Bonn, Germany)
“Deutsche COVID-19 OMICS Initiative (DeCOI)”
- 14:30–15:00 Viral genome and microbiome sequencing
Stephan Ossowski (Tübingen): Estimating the mutation rate in a host's SARS-CoV2 population by ultra-deep sequencing with unique molecular barcodes
Jonathan Schmid-Burgk (Bonn): Scalable SARS-CoV-2 Diagnostics Using LAMP-Seq
- 15:00–15:30 Analyzing the immune response by functional genomics approaches
Joana Bernardes (Kiel): Single cell transcriptomics and COVID-19 disease trajectories
Anna Aschenbrenner (Bonn): Disease severity-specific neutrophil signatures in blood transcriptomes stratify COVID-19 patients
- 15:30–16:00 Identification of host genetics factors of disease susceptibility and clinical course
Andre Franke (Kiel): Genetic risk and protection in COVID-19 disease
Alex Hoischen (Nijmegen): Rare TLR7 variants in young men with severe COVID-19
- 16:00–16:30 Recent improvements in speed and accuracy for NGS data analysis
Rami Mehio (San Diego, Illumina)

16:30–17:00 Coffee Break

17:00–19:00 Session 2 – Polygenic risk scores (PRS)

Session Chair: Peter Krawitz, University Hospital Bonn, Germany

- 17:00–17:30 **Barbara Domingues Bitarello** (Perelman School of Medicine, Pennsylvania, USA)
“Investigating the lack of transferability of PRS in cohorts with mixed ancestry”
- 17:30–18:00 **Julian Hecker** (Harvard Medical School, Boston, USA)
“Gene-environment interaction testing using flexible statistical learning approaches and robust statistics”
- 18:00–18:30 **Patrick Turley** (Broad Institute, Boston, USA)
“Imprint of assortative mating on the human genome”
- 18:30–19:00 **Carlo Maj** (University Hospital Bonn, Bonn, Germany)
“Combining polygenic risk scores with gene-based burden scores”

19:00–19:45 Keynote lecture by Martina Schübler-Lenz (Paul-Ehrlich-Institut)
“Marketing authorisations of gene and cell therapies in the EU”

20:15–21:30 Soheil Nasserli plays piano sonatas by Ludwig van Beethoven

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8:30–10:30 Session 3 – New disease mechanisms

Session Chair: Peter Nürnberg, Cologne Center for Genomics, Germany

- 08:30–09:00 **Christian Gilissen** (Radboud, Nijmegen, Netherlands)
“De novo mutations in neurodevelopmental disorders”
- 09:00–09:30 **Malte Spielmann** (Institutes of Human Genetics Lübeck/Kiel, Germany)
“The effect of non coding mutations during embryonic development at single cell resolution”
- 09:30–10:00 **Hans Clevers** (Hubrecht Institute, Utrecht, The Netherlands)
“Modeling hereditary and malignant disease in human organoids”
- 10:00–10:30 **Alex Hoischen** (Radboud UMC, Nijmegen, The Netherlands (for Bionano))
“Next generation cytogenetics – optical mapping for comprehensive structural variant detection”

10:30–11:00 Coffee Break

11:00–13:00 Session 4 – Genome diagnostics and health data security

Session Chair: Udo Schimmel, Alphametrix Biotech GmbH, Rödermark

- 11:00–11:30 **Kai Grunenberg** (ITSG GmbH, Heusenstamm, Germany)
“Security of high volume data transfer and storage in German health networks”
- 11:30–12:00 **Peter Krawitz** (University Hospital Bonn, Germany)
“TNAMSE as a blueprint for Genome Diagnostics in Germany”
- 12:00–12:30 **Oliver Kohlbacher** (Eberhard Karls Universität, Tübingen, Germany)
“The German Human Genome-Phenome Archive (GHGA) – A national data infrastructure for human omics data”
- 12:30–13:00 **Ulrike Ziehm** (Molecular Health GmbH, Heidelberg, Germany)
“Comparing performance and robustness of two TCGA-inspired risk-stratification strategies for endometrial cancer on a DNA sequencing platform”

13:00–13:30 Oral presentations of poster prize winners

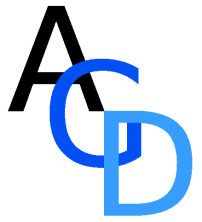
13:30–14:30 Lunch Break

14:30–16:00 AGD General Assembly

16:00 End of Meeting

Genomics for health

Arbeitsgemeinschaft für Gen-Diagnostik e.V.



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Venue – Virtual Meeting, Tel. 0228-287 14799

Registration – Online at <http://www.agdev.de/anmeldung.html>, on-site registration will not be possible this year!

Fees – AGD Members and Students 35 €, Non AGD Members 75 €.