Department of Biomedicine
Faculty of Health
Aarhus University

SYMPOSIUM OF DISRUPTIVE TECHNOLOGIES: READING, WRITING AND EDITING

12 March, 14:30 – 16:00
Keynote Lecture: **George M. Church**
Venue: Building 1242, Room 135. The Bartholin Auditorium
Time: 14:30 – 16:00

Prof. George M. Church (From Wyss Institute at Harvard University)

Title: "Reading & editing genomes & biosystems"

Abstract: We have reduced the cost of reading and writing DNA 10 million fold in ten years. Indeed, in analogy to free maps and web search we can now profit from $0 whole genome sequences. How can we extend this to other aspects of medicine, biology and other diverse manufacturing and information processing opportunities?

Bio: George M. Church, PhD '84, is professor of genetics at Harvard Medical School, a founding member of the Wyss Institute, and director of PersonalGenomes.org, the world's only open-access information on human genomic, environmental, and trait data. Church is known for pioneering the fields of personal genomics and synthetic biology. He developed the first methods for the first genome sequence & dramatic cost reductions since then (down from $3 billion to $600), contributing to nearly all "next generation sequencing" methods and companies. His team invented CRISPR for human stem cell genome editing and other synthetic biology technologies and applications – including new ways to create organs for transplantation, gene therapies for aging reversal, and gene drives to eliminate Lyme Disease and Malaria. Church is director of IARPA & NIH BRAIN Projects and National Institutes of Health Center for Excellence in Genomic Science. He has coauthored 450 papers, 105 patents, and one book, "Regenesis". His honors include Franklin Bower Laureate for Achievement in Science, the Time 100, and election to the National Academies of Sciences and Engineering.

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13th March, 9:00 – 16:30
(OBS!) Venue: Building 1231, Room 424. The Lille Anatomy Auditorium

Program:

8:30 – 8:50 Morning Coffee

8:50 – 9:00 **"**Welcome and Introduction of AU-iCRISPR and SCOMICS", by Associate Professor Yonglun Luo (Alun), Department of Biomedicine, Aarhus University

Section 1: Chair by Lars Bolund

9:00 – 9:30 **"**BGI-MGI: Development of Reading Platforms", by Prof. ***Lars Bolund***. President of the Lars Bolund Institute of Regenerative Medicine – BGI and Senior Scientific Advisor of BGI-Europe.

9:30 – 10:00 "Biomarkers in Disease: new Tools - new Molecules", by Prof***. Jørgen Kjems***, CellPat, iNano, Aarhus University

10:00 – 10:30 "Danish Genome Center", TBD

10:30 – 10:45 Coffee Break

Section 2: Chair by Yonglun Luo

10:45 – 11:15 **"**From Single Cell Genomics to Multiomics", by ***Stephen Hague***. Scientific Manager at 10X genomics, Inc

11:15 – 11:45 "Endothelial cell heterogeneity in pathological angiogenesis revealed by single cell sequencing", by ***Jermaine Goveia***, postdoc fellow at VIB, KU-Leuven

11:45 – 12:15 **"**Characterizing the nucleolar DNA damage response using CRISPR/Cas9", by Asso. Prof. ***Dorthe Helena Payne-Larsen***, Danish Cancer Society

12:15 – 13:00 Lunch Break

Section 3: Chair by Nik Klymiuk
13:00 – 13:30 "Predicting the mutations generated by repair of Cas9-induced double-strand breaks", by **Felicity R. Allen,** senior research fellow, Wellcome Sanger Institute.

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13:30 – 14:00 "long-term survival of fully life-supporting heart xenotransplantation", by **Nik Klymiuk**, Associate Professor, Department of Molecular Animal Breeding and Biotechnology, LMU

14:00 – 14:30 "Xenotransplantation by genome recoding", by Assi. Prof. **Lin Lin**, Department of Biomedicine, Aarhus University

14:30 – 14:45 Coffee Break

Section 4: Chair by Rasmus Bak
14:45 – 15:15 "Genome engineering of hematopoietic stem cells using CRISPR/Cas9", by Asso. Prof. **Rasmus Bak**. AIAS-COFUND Fellow, Department of Biomedicine, Aarhus University

15:15 – 15:45 "Lentiviral delivery of genome editing tool kits", by Prof. **Jacob Giehm Mikkelsen**, Professor, Department of Biomedicine, Aarhus University

15:45 – 16:15 "Identifying liver cancer drivers through somatic editing of the mouse liver", by Prof. **Morten Frödin**, BRIC, KU.

16:15 – 16:30 Closing remarks and discussions

PLEASE REGISTER THE SYMPOSIUM BEFORE MARCH 8:

HTTPS://EVENTS.AU.DK/SYMPOSIUMOFDISRUPTIVETECHNOLOGIES

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