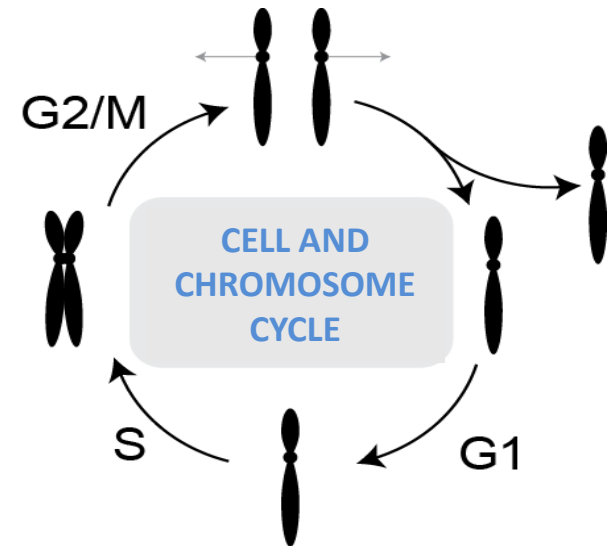


## Center for Chromosome Stability (CCS)

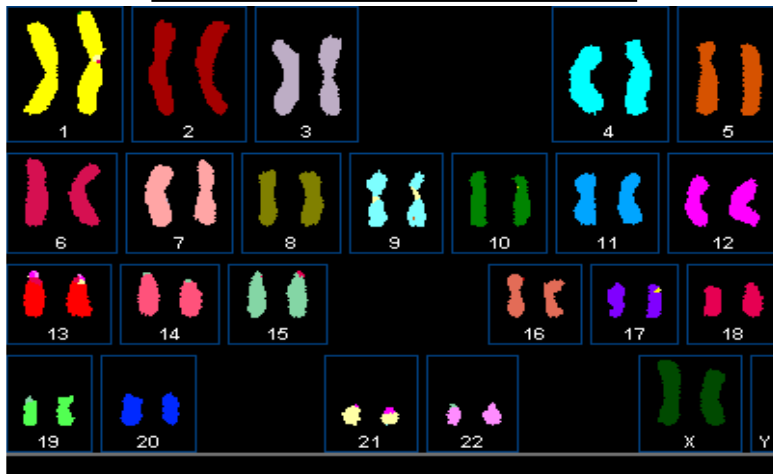
Ian Hickson

**AIM**

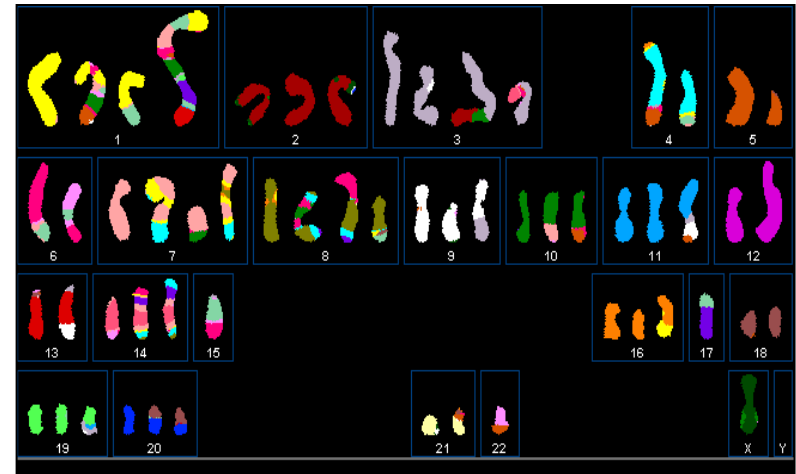
To define the underlying mechanisms and pathological consequences of chromosomal instability in human cells



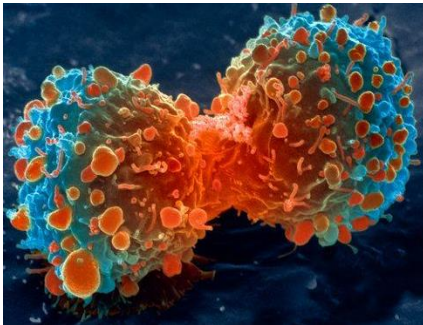
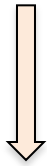
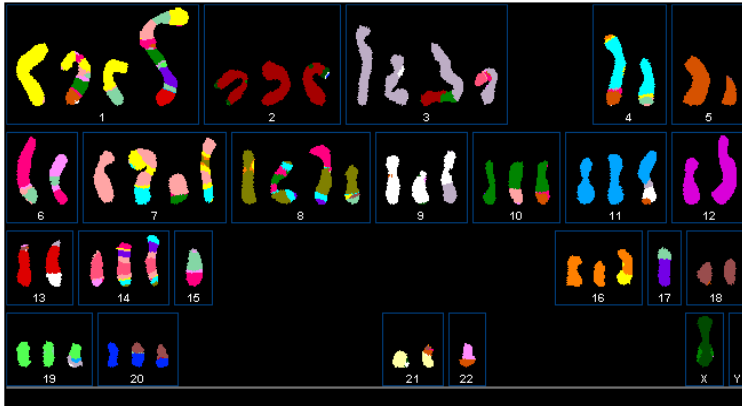
Normal chromosomes



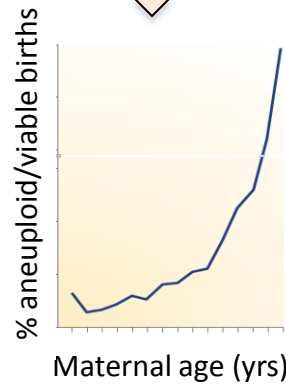
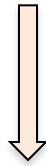
Rearranged Chromosomes and Aneuploidy



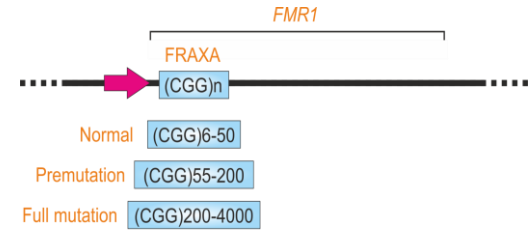
# RELEVANCE TO HUMAN DISEASE



Cancer



Birth defects/Infertility

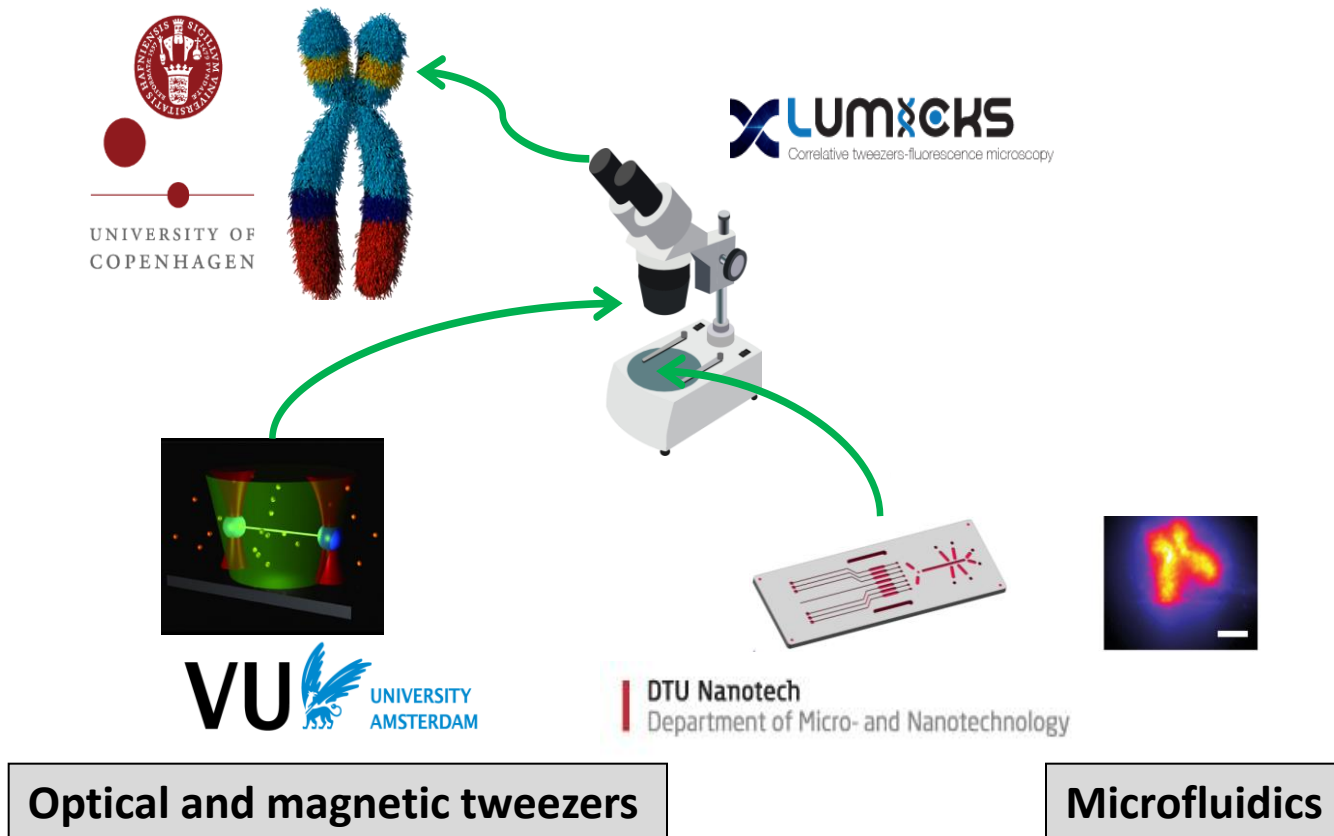


Expansion of a repeated DNA sequence



Fragile X syndrome

# CROSS-DISCIPLINARY STUDIES



# A COLLABORATIVE TEAM – NATIONAL/INTERNATIONAL COOPERATION

## CCS director Ian D. Hickson

*Molecular, Chromosomal, Cellular and Human Studies  
Chromosome biology, biochemistry and cell biology*



## Eva Hoffmann

*Molecular, Chromosomal, Cellular and Human Studies  
Meiotic recombination/segregation and Impaired Fertility*



## Hocine Mankouri

*Molecular and Chromosomal Studies  
Locus-specific DNA replication,  
recombination and repair*



## Michael Lisby

*Cellular Studies  
Cell-based and genetic screens*



## Andres Lopez-Contreras (MD)

*Animal Models  
Genome instability and aging in mice*



## Niels Mailand

*Molecular and Cellular Studies  
DNA damage signaling, repair and proteomic screens*



## Ying Liu (MD)

*Cellular and Human Studies  
Molecular genetics and cancer*



Molecular  
studies

Chromosomal  
studies

Cellular  
studies

Animal model  
studies

Human  
studies

## International Collaborators

Optical/magnetic tweezers  
Gijs Wuite, Amsterdam

Age-Related Neurological Disease  
Cynthia McMurray, Berkeley

Fertility/Birth Defects/IVF  
Alan Handyside et al. UK/Italy

Mouse Genetics  
Oscar F-Capetillo, Madrid

## National Collaborators

Microfluidics  
Anders Kristensen (DTU)

Age-Related Neurological Disease  
Linda Bergersen (INF, KU)

Quantitative Proteomics  
Chunaram Choudhary (CPR, KU)

Next-Gen Sequencing  
Niels Tommerup (ICMM, KU)