

# 'OPELV DNA' KULTURNATTEN EVENT - UNIVERSITY OUTREACH FOR ALL AGES



PHOTOGRAPHS YING LIU / UNSPLASH TEXT SKYLER BENTLEY HALL

**EACH YEAR, ON** a Friday night before the school autumn holiday, the 'Kulturnatten association' creates a festive evening where the city works together to create joy and inspiration for people of all ages. More than 250 museums, theatres, libraries, churches, and parks are open to the public at locations in Valby, Carlsberg, Sydhavn, Frederiksberg, Østerbro, Vesterbro, Kødbyen, Nørrebro, Nordvest, Nordhavn, Islands Brygge, Amagerbro, Christianshavn and Holmen. In addition, visitors can experience the city while Ying conducts research in the Center for Chromosome Stability (CCS), funded by the Danish National Research Foundation (DNRF). She is passionate about conveying her research interests to the public, and what better way to do so than through the annual Culture Night?

## OPELV DNA EXHIBITION

After moving to Denmark in 2010, Ying established a research group at the University of Copenhagen to understand how human cells counteract stress during DNA replication. Since 2018, Ying has organised the 'Oplev DNA' exhibition in the Maersk tower on Kulturnatten. In this event, about ten CCS scientists (PhD students, postdocs, associate or full professors) participate in this 'mini-laboratory' to guide visitors through different activities. The key activities of this minilab include observing chromosomes under microscopes, observing a model chromosome, watching videos of cells dividing, and extracting DNA from fruits using household materials. In addition, the CCS scientists guide visitors to perform various activities. For example, in the 'DNA extraction from tomatoes or bananas' activity, each visitor will be supervised by a CCS scientist to carry out a simple protocol that would allow the DNA to be released from the fruit cells.

## CCS SCIENTIFIC MISSION

The scientific mission of the CCS is to understand how cells minimise the damage that can generate chromosomal instability. There are currently seven research groups in CCS and around forty-five scientists from more than eighteen countries. One of the missions of the CCS is to communicate with the public about their research findings, which could improve public awareness of the causes of diseases and inspire interest in biological research for younger generations. Copenhagen Culture night is the perfect forum for the CCS's outreach activities.

## ENGAGING PARTICIPANTS OF ALL AGES

Starting in 2018, CCS prepared five different activities for their exhibition. They made colourful accompanying posters (with text in both Danish and English) so that visitors could understand the content and purpose of the activities. To their surprise, nearly all the activities in the first minilab were popular during the whole evening of Culture Night. The visitors were fascinated by the fact that they could extract DNA from tomatoes within fifteen minutes using household materials or see human chromosomes under microscopes, just like real scientists in the laboratories! Over time,



they have kept similar activities in their minilab since these are so well attended and appreciated by visitors. Notably, the minilab of 'Oplev DNA' is a universal event without gender, age or language barriers. The activities include participants aged three and a half to more than seventy-five. The 'DNA extraction' activity has been most popular with children, although some have not yet learned English. Their parents were excellent translators for non-Danish CCS scientists who gave English instructions during this activity.

## QUESTIONS TO PONDER

Ying's team believes that through this experience, the public is keen to improve their knowledge of diseases such as cancer, infertility, or age-related dementia, all of which are highly relevant to the research focus of the CCS. In addition, visitors have raised interesting questions; for example, 'do longer telomeres allow people to live longer?'; 'why do people develop cancer when they don't have any hereditary mutations and have a healthy lifestyle?'; 'can we use gene editing to cure cancer or genetic diseases?'. **THE-INTL**

**"THIS EVENT IS A FANTASTIC EXPERIENCE FOR ALL THE CCS SCIENTISTS INVOLVED. WE ALL FELT THAT OUR HARD WORK WAS GREATLY REWARDED BY THE ENTHUSIASM AND CURIOSITY OF THE VISITORS! THAT'S WHY WE HAVE BEEN CARRYING ON RUNNING THIS MINILAB, AND ALWAYS LOOKING FORWARD TO MEETING THE PUBLIC ON THIS SPECIAL EVENING" - YING LIU, ASSOCIATE PROFESSOR, UNIVERSITY OF COPENHAGEN**



**SKYLER BENTLEY HALL**  
EDUCATIONAL CONSULTANT

Skyler is originally from Canada, and after living in Switzerland for several years, she transitioned to Denmark with her husband and son - all proud Canadians. Skyler has worked in the education sector for three decades and found her true passion for supporting students with their educational journey. As the Founder of Bentley Hall Educational Consulting, she advises on career and university options globally. Skyler enjoys spending time with family, exploring new cultures, and embracing the hygge lifestyle in beautiful Denmark.

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