



# Invitation

## Two Professorial Inaugural Lectures

The Department of Biology invites you to two inaugural lectures and reception.

**Time:** Friday May 20, 2022, 14:30 - 16:00

**Venue:** Lundbeckfond Auditorium, Biocenter, Ole Maaløes Vej 5, 2200 Copenhagen

### PROGRAM

**14:30** Welcome by Head of Department Niels Kroer

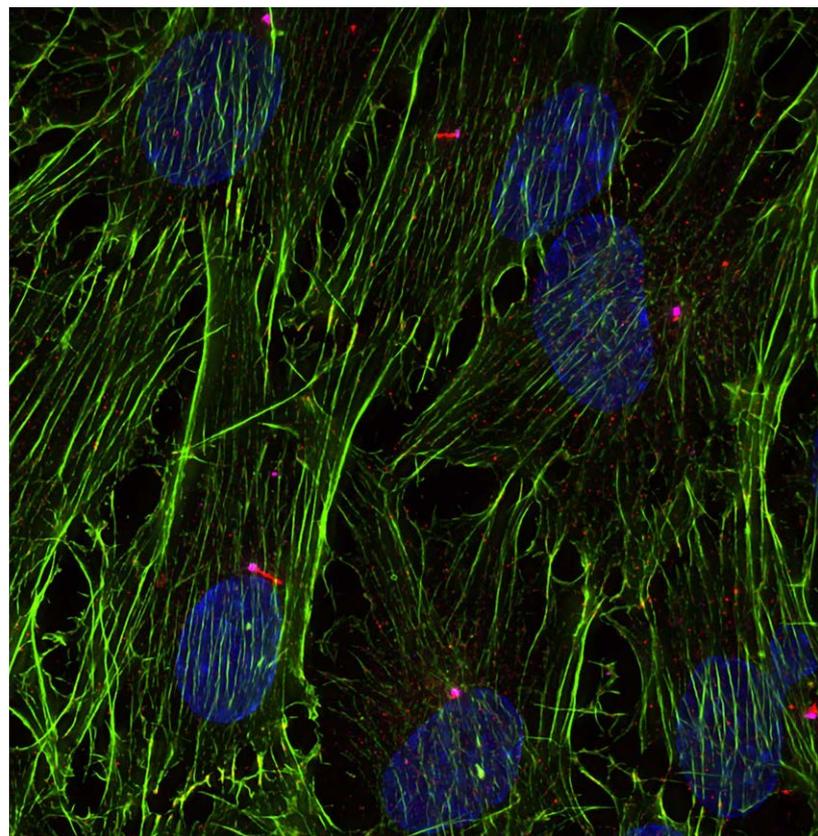
**14:40** Professor Peter Brodersen: *How cells control gene activity - lessons from the green world and more* (abstract on page 2)

**15:10** Professor Lotte Bang Pedersen:  
*Primary cilia in health and disease* (abstract on page 2)

**15:40** Reception

All are welcome!

DEPARTMENT OF BIOLOGY



# Abstracts

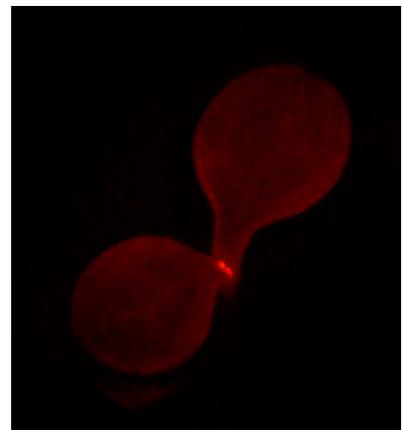


**Peter Brodersen**

## How cells control gene activity – lessons from the green world

Cellular control of gene activity is of fundamental importance in biology. Genetic programs specify developmental fate and adaptation to a changing environment, including defence against potential pathogens. Not surprisingly, the study of gene expression has, therefore, been a major focus of molecular biology for the past 50 years, and tremendous advances have been made in our understanding of how the gene is transcribed, how messenger RNA is being translated, and how the abundance and activity of proteins are regulated after completion of their synthesis.

Important new developments in the field of gene expression include the groundbreaking discovery that small non-coding RNAs regulate gene expression at all levels, and that covalent modifications of nucleotides in mRNA contribute in a hugely significant way to shape genetic programs. We study these processes using the plant *Arabidopsis thaliana*, and will discuss some of our discoveries and future research plans in the context of the broader picture of genetic control.



**Lotte Bang Pedersen**

## Primary cilia in health and disease

Primary cilia are antenna-like sensory organelles that project from the surface of most non-dividing cells in our body and detect and transmit environmental cues to regulate cell behavior and gene expression, in turn controlling the development and function of various tissues and organs. Mutations in genes coding for ciliary proteins cause a wide range of diseases and syndromes known as ciliopathies, for which no cures are currently available. It is therefore important, both from a basic scientific as well as medical perspective, to understand the molecular mechanisms by which these organelles are assembled and function to regulate signaling. I will present some published and ongoing research from my group aimed at dissecting the molecular mechanisms by which cells assemble primary cilia, and explain why this is relevant for human disease.

