

# KJELDGAARD Lecture - Prof. Dr. Elena Conti

Friday 15 September 2023 at 10:15—11:00

Followed by PhD-session at 11:25—11:50

(Coffee and cake will be served between lecture and PhD-session)

1871-120 (MBG Auditorium)

Host: Torben Heick Jensen



**Prof. Dr. Elena Conti**

Structural Cell Biology Department

Max Planck Institute of Biochemistry

## *'To degrade or not to degrade: a structural biology perspective of RNA homeostasis'*

In eukaryotes, the transcription of protein-coding genes is coupled to processing events that modify the transcripts and coat them with proteins to form messenger ribonucleoprotein complexes (mRNPs). If all biogenesis steps occur correctly, the resulting mature mRNPs are transported to the cytoplasm. Failure of the biogenesis process can result in malformed mRNPs that are retained in the nucleus and eliminated, primarily via the action of the RNA-degrading exosome. The RNA exosome is also involved in cytoplasmic surveillance pathways that identify and degrade aberrant mRNAs in translation-dependent mechanisms. How do the quality control machineries recognize aberrant mRNAs/mRNPs and degrade them? Conversely, what are the features of mature, correctly packaged nuclear mRNPs that allows them to evade degradation? The talk will delve into our ongoing biochemical and structural studies on the molecular mechanisms of RNA homeostasis.