

KJELDGAARD Lectures - Schraga Schwartz

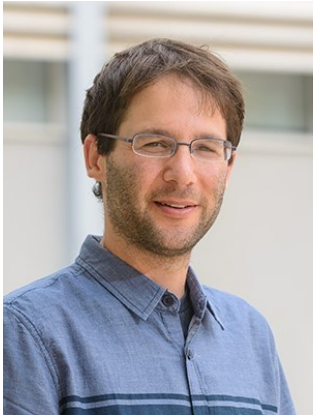
Tuesday 7 January 2025 at 13:15-14:00

Followed by PhD-session at 14:30-15:00

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

1871-120 (Nucleus/MBG auditorium)

Hosts: Torben Heick Jensen/Christian Kroun Damgaard



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The secret building blocks of RNA: From decoding to therapeutic harnessing

Over 150 types of distinct chemical modifications are catalyzed post-transcriptionally across different classes of RNA (the 'epitranscriptome'). In an analogous manner to modifications on DNA and proteins, RNA modifications play critical roles in regulating the RNA life-cycle and in modulating cellular and physiological responses. RNA modifications are also of intense interest from applied perspectives, and were key to the success of the SARS-Cov2 mRNA vaccines. Fundamental challenges in the field are limitations in our ability to detect ('Read') RNA modifications, to unravel their "meanings" ('Decode') and to install them at desired target sites ('Write'). Our lab has established an array of approaches for genome-wide detection, quantification, functional interrogation and mechanistic dissection of an array of mRNA modifications. I will present two stories, each focusing on a distinct modification - N⁶-methyladenosine (m⁶A) and N⁴-acetylcytidine (ac⁴C). In both cases, the ability to systematically map these modifications was pivotal for unraveling their distinct, respective functions in regulating RNA decay and thermostability.