KJELDGAARD Lecture - Professor Christine Mayr

Virtual lecture **11 March 2021 @ 2PM via Zoom**

Professor Christine Mayr, MD, PhD
Cancer Biology and Genetics Program,
Memorial Sloan Kettering Cancer Center

Regulation of protein function by 3'UTRs

mRNAs are the templates for protein synthesis because the coding region is translated into the amino acid sequence. However, mRNAs contain additional elements for the regulation of protein function. These elements are predominantly located in their 3' untranslated regions (3'UTRs). We found that 3'UTRs can mediate the formation of protein-protein interactions that are otherwise not established. 3'UTR-dependent protein complex assembly regulates protein localization, protein activity, and enables alternative protein functions. In addition to protein complex formation, mRNAs also contribute to the organization of the cytoplasm through the formation of mesh-like membraneless organelles. 3'UTR-dependent translation within these subcellular compartments is another way to regulate protein function. Alternative 3' UTRs have emerged as major regulators of protein multi-functionality and of spatial cellular organization.

Short bio:

- Molecular and cell biologist Christine Mayr studies how 3'UTRs regulate protein functions and how mRNAs contribute to cytoplasmic organization. These elements can for example facilitate assembly of large membrane-less domains regulating important cellular decision processes.
- PhD, Humboldt University Berlin
- Postdoctoral Fellow, Laboratory of David P. Bartel, Massachusetts Institute of Biology, Cambridge, MA
- Assistant/Associate Professor of Computational Biology and Medicine, Weill Cornell Medical College, New York, NY
- Professor, Gerstner Sloan Kettering Graduate School of Biomedical Sciences, New York, NY,
  Professor of Biochemistry and Molecular Biology, Professor of Computational Biology and Medicine,
  Weill Cornell Medical College, New York, NY

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