

Speaker name: Henrik Nielsen, University of Copenhagen

Title: “RNA guiding the way”

Short abstract:

Recruitment of a small RNA by a protein in order to achieve sequence-specific recognition of a nucleic acid target is a recurrent principle in molecular biology. A prominent example is complexes comprising the methyltransferase fibrillarin and guide RNAs belonging to the box C/D class. I will demonstrate the evolutionary flexibility and adaptability of these complexes based on analyses using a sequencing-based approach for profiling of ribose methylations developed in our lab. Examples will range from microorganisms to human cell lines and samples from cancer patients. An attractive feature is that modifications can be manipulated through knock-out or knock-in of guide RNAs. The perspective of making “designer ribosomes” will be discussed.

Short bio:

HN received his Master’s degree and PhD (then lic. scient.) from University of Copenhagen in 1983 and 1990, respectively. He has been an employee at the university since then and has held parallel positions at University of Tromsø, Norway in the period 2004-2012. His key contributions in research have been in the catalytic RNA field with emphasis on self-splicing group I introns and the discovery of the lariat capping ribozyme. In recent years, he has moved into the field of RNA modifications that we will hear about today.

Link to a lab website: <https://icmm.ku.dk/english/research-groups/h-nielsen-group/>