Johns Hopkins University

Department of Biology Seminar Series

Thursdays, 4:00pm

For more information go to: *https://bio.jhu.edu/events*

Zoom link: *https://zoom.us/j/97925356454?pwd=bjNuTlY1dU9BcXcvRFdleis2TVNadz09*

March 23rd, 2023 - Mudd 100

Bernd Bukau

Center for Molecular Biology of Heidelberg University and German Cancer Research Center

Host: Christian Kaiser

"Co-translational folding and assembly of newly synthesized proteins"

Many of the critical steps of enzymatic processing, membrane targeting, native folding and even assembly of newly synthesized proteins occur co-translationally, implying that protein maturation and decoding of genetic information by the ribosome are coupled processes. We are mainly using ribosome profiling technology in bacteria, yeast and human cells to dissect genome-wide protein maturation steps at near-codon resolution and in dependence of the length of the nascent polypeptide chains. This approach allowed us to dissect the flux of the cellular nascent chain proteome through the system of co-translationally engaged chaperones and to demonstrate that many oligomeric protein complexes assembly co-translationally. Recently, we found evidence for the coordination of translation speed and assembly.