



Katedry genetiky a biochémie PriF UK  
a občianske združenie *NATURA*



Vás pozývajú na 126. prednášku v rámci Kuželových seminárov:

**Dr. Tim Clausen**

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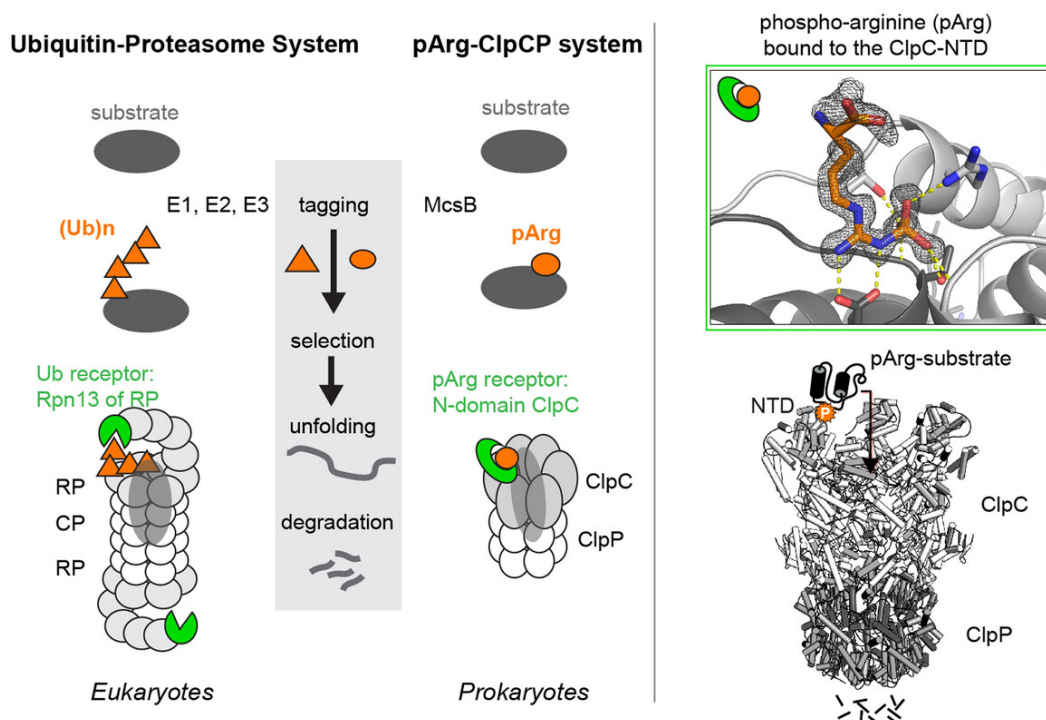
## **BACPROTACs – ANTIBIOTICS OF THE FUTURE?**

ktorá sa uskutoční **23. februára 2024** (piatok) o **13:30**

v miestnosti CH1-222 Prírodovedeckej fakulty UK

<http://www.naturaoz.org/seminare.html>  
<http://www.naturaoz.org/KuzeloveSeminare.html>

**Tim Clausen** group at the Research Institute of Molecular Pathology employs an integrative Structural Biology approach to study complex proteases and chaperones that function as safeguards in the cell, preventing other proteins from undergoing dangerous interactions. By addressing mechanistic details of the protein-quality-control machinery, they aim to develop strategies against misbehaving proteins connected with neurodegenerative diseases, inclusion body myopathies, cancer and ageing. Moreover, differences in the protein folding and protein degradation pathways between bacterial pathogens and their hosts will guide the development of novel antibiotics.



Comparison of ubiquitin-proteasome and pArg-ClpCP degradation pathways. The right panel shows the binding of pArg to the N-terminal domain of ClpC, thereby forwarding pArg proteins for ClpCP degradation. Adopted from <https://www.imp.ac.at/groups/tim-clausen>.

## Selected publications

- Junk, L., .... **Clausen, T.** (2023). Homo-BacPROTAC-induced degradation of ClpC1 as a strategy against drug-resistant mycobacteria. *ChemRxiv*; doi: 10.26434/chemrxiv-2022-8hnrh-v2.
- Hoi, D.M., ... **Clausen T.** (2023). Clp-targeting BacPROTACs impair mycobacterial proteostasis and survival. *Cell* 186: 2176-2192.
- Ehrmann, J.F., ... **Clausen, T.** (2023). (2023) Structural basis for regulation of apoptosis and autophagy by the BIRC6/SMAC complex. *Science* 379: 1117-1123.
- Morreale, F.E., ... **Clausen, T.** (2022). BacPROTACs mediate targeted protein degradation in bacteria. *Cell* 185: 2338-2353.
- Hellerschmied, D., ... **Clausen, T.** (2018). UFD-2 is an adaptor-assisted E3 ligase targeting unfolded proteins. *Nature Communications* 9: 484.
- Trentini, D.B., ... **Clausen, T.** (2016). Arginine phosphorylation marks proteins for degradation by a Clp protease. *Nature* 539: 48-53.