

Seminar Speaker Series

in the framework of Interreg V-A project CAPSID

presents

Prof. Rubén Fernández- Busnadiego

University Medical Center Göttingen, DE

Unraveling the structure of toxic protein aggregates *in situ*

18. 03. 2021 at 14:00

Online virtual talk via Zoom

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Prof. Rubén Fernández-Busnadiego

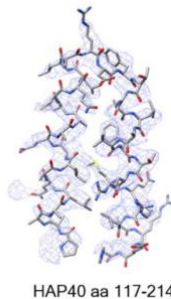
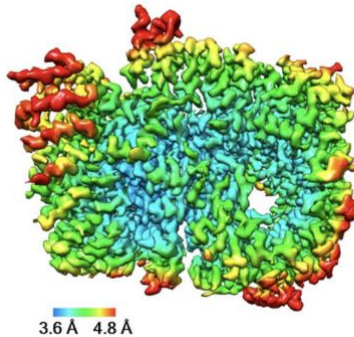
Profesor of Molecular Cell Biology

University Medical Center Göttingen

[Research identifier - ORCID](#)

RESEARCH FOCUS

Unravelling the structure of toxic protein aggregates *in situ*.



ANNOTATION

Protein aggregation is a hallmark of many neurodegenerative diseases, including Huntington's, Parkinson's and amyotrophic lateral sclerosis. However, the mechanisms linking aggregation to neurotoxicity remain poorly understood, partly because only limited information is available on the native structure of protein aggregates inside cells. We address this pressing issue utilizing the latest developments in cryo-electron tomography (cryo-ET). We prepare thin lamellas of vitrified cells containing protein aggregates using cryo-focused ion beam, and subsequently image them in three dimensions by cryo-ET. This allows us to analyse aggregate structure within pristinely preserved cellular environments and at molecular resolution. Here, I will discuss how our latest results shed new light into the cellular mechanisms of neurodegeneration.

HIGHLIGHT

In 2018 Prof. Fernández-Busnadiego received **Walther Flemming Award** of the **German Society for Cell Biology**, recognizing cutting-edge cryo ET and cryo EM work.

REFERENCES

- [1] Bäuerlein et al. and **Fernández-Busnadiego**, (2017) *Cell* 171 (1), 179-187.
- [2] Guo et al. and **Fernández-Busnadiego** & Kochanek, (2018) *Nature* 555, 117–120.
- [3] Guo et al. and **Fernández-Busnadiego**, (2018) *Cell* 172 (4), 696-705.

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