GESELLSCHAFT DEUTSCHER CHEMIKER

Ortsverband Osnabrück

“From structural to functional dynamics of single membrane transporters”

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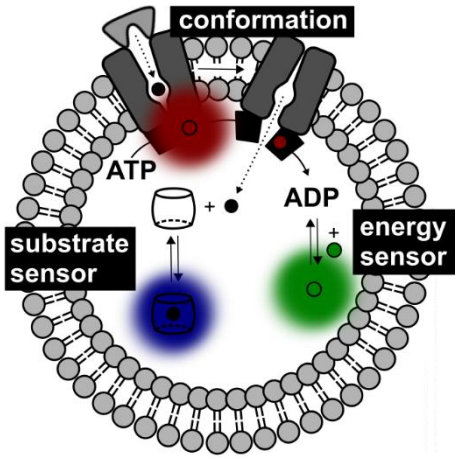
Membrane transporters are prime targets for current and future pharmaceutical drugs due to their involvement in numerous cellular processes that can cause human diseases, bacterial pathogenicity, drug resistance, and other medical phenomena. Whereas the identification and structural analysis of transporters has moved at great pace, there is still an urgent need to better understand molecular mechanisms that can facilitate the development of new therapies, e.g., through the identification of inhibitors. In my talk, I will present work on the optical investigation of active membrane transporters using single-molecule approaches, e.g., Förster resonance energy transfer (FRET)[1,2], which is capable to monitor structural dynamics in real time.

First, I will provide an overview of our mechanistic contributions to the field of ABC importers[3,4] and exporters[5], and I will present unpublished data on new biophysical methods that allow the characterization of functional dynamics in single membrane transporters.



[1] Lerner et al., Science 359 (2018) eaan1133
[2] Agam et al., Nature Methods 20 (2023) 523-535
[3] G. Gouridis et al., Nature Structural & Molecular Biology 22 (2015) 57-64
[4] M. de Boer et al., eLife 8 (2019) e44652
[5] F.A. Husada et al., EMBO Journal 37 (2018) e10056

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Besucher sind herzlich willkommen!

Der Ortsverbandsvorsitzende:
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