NOVEL METHOD TO VISUALIZE SPECIFIC PORIN-SUBSTRATE INTERACTIONS

KOLDO MORANTE[1], NIKLAS BRENDING[2], RICHARD WAGNER[1], MATHIAS WINTERHALTER[1]

[1]Jacobs University Bremen and [2]Ionovation GmbH, Osnabück, Germany

Bacterial porins densely populate bacterial membranes and allow the passive diffusion of nutrients into the cell. The use of electrophysiology, structural biology, and molecular simulation approaches is often common to study the interaction and diffusion of substrates through the porins. However, as of today, substrate translocation through porins has yet not been clearly demonstrated.

In these studies we describe a novel method based on an opto-electrical approach with which we can visualize substrate-porin coupling and, potentially, substrate diffusion through the porin of interest.