Abstract Submitted
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Swimming pattern of *Pseudomonas putida* – navigating with stops and reversals[1] MARIUS HINTSCHE, VERONIKA WALJOR, ZAHRA ALIREZAEIZANJANI, MATTHIAS THEVES, CARSTEN BETA, University of Potsdam — Bacterial swimming strategies depend on factors such as the chemical and physical environment, as well as the flagellation pattern of a species. For some bacteria the motility pattern and the underlying flagellar dynamics are well known, such as the classical run-and-tumble behavior of *E. coli*. Here we study the swimming motility and chemotactic behavior of the polar, multi-flagellated soil dwelling bacterium *Pseudomonas putida*. Compared to *E. coli*, its motility pattern is more diverse. In addition to different speed levels, *P. putida* exhibits two types of reorientation events, stops and reversals, the occurrence of which is modulated according to the growth conditions. We also analyzed the swimming pattern in the presence of chemical gradients. Using benzoate as a chemoattractant, we measured key motility parameters in order to characterize *P. putida's* chemotaxis strategy and to quantify the directional bias in its random walk. Our results indicate a change in the reversal frequency depending on changes in the chemoattractant concentration consistent with the classical scenario of temporal sensing.

[1]DFG

Marius Hintsche
University of Potsdam

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