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## Swimming with magnets - Motility of magnetotactic bacteria

Magnetotactic bacteria, which align along magnetic field lines with the help of a linear chain of magnetic organelles called magnetosomes, provide an example for magnetic active matter and an excellent model system to study the interplay of physical and biological processes. The combination of magnetic and aerotactic directionality, and their (steric and hydrodynamic) interactions with walls result in intriguing trajectories in complex environments.

I will report on several studies addressing this interplay in a combination of experimental and theoretical approaches, specifically aerotactic band formation and their behavior in confined environments.

**Suggested Readings:** *Single-cell motion of magnetotactic bacteria in microfluidic confinement: interplay between surface interaction and magnetic torque* - A. Codutti, M. Charsooghi, E. Cerda-Donate et al. bioRxiv 2021.03.27.437322 (2021)  
<https://doi.org/10.1101/2021.03.27.437322>