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## Synthetic model microswimmers near walls

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# **SYNTHETIC MODEL MICROSWIMMERS NEAR WALLS**

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The cover shows a Janus colloid, a microscopic particle whose surface consists of two distinct hemispheres. One hemisphere is nonmetallic while the other is covered with the metal platinum. The name *Janus* comes from the two-faced god of Roman mythology. This work studies the self-propelled motion of these colloids near walls. Special thanks goes to Rachel Doherty for scanning electron microscopy imaging and to Ruben Verweij for help with cover preparation.

*"A friend of mine (Albert R. Hibbs) suggests a very interesting possibility for relatively small machines. He says that, although it is a very wild idea, it would be interesting in surgery if you could swallow the surgeon. You put the mechanical surgeon inside the blood vessel and it goes into the heart and "looks" around. It finds out which valve is the faulty one and takes a little knife and slices it out."*

Richard Feynman, *Plenty of Room at the Bottom*, Pasadena, 1959

*To my brother.*



# Contents

1	Introduction	1
2	Wall-Dependent Propulsion Speeds	27
3	Diffusion-Based Analysis for Wall Distance Determination	53
4	Activity-Induced Interactions Along One-Dimensional Paths	81
5	Holography as a Probe for Near-Wall Colloid Dynamics	105
6	Self-Propulsion of Symmetric and Asymmetric Dumbbells	131
7	Conclusions and Outlook	147
	Bibliography	155
	Summary	185
	Samenvatting	191
	Acknowledgements	195
	List of Publications	197
	About the author	199

