

EMPLOYMENT

- Dec. 2016-present PI, Centre for Mechanochemical Cell Biology, University of Warwick, UK.
- 2013 – present Assistant Professor, Department of Physics, University of Warwick, UK.
- 2007 – 2013 Postdoctoral Research Fellow, DAMTP, University of Cambridge, UK.
Funded by a Marie-Curie Intra-European Fellowship (2008-2010) and an EPSRC Postdoctoral Fellowship (2010-2013).

QUALIFICATIONS

- 2001-2007 Ph.D. in Physics. Advisor Prof. David G. Grier.
Direct measurement of colloidal interactions with holographic optical tweezers
Center for Soft Matter Research, New York University, USA.
- 1995-1999 Laurea in Physics (Theoretical), 110/110 cum laude (highest honour).
Advisor Prof. Mario Tonin
Università degli Studi di Padova, Italy.

(Between Jan 200 and April 2001 I had to attend compulsory military service in Italy.)

PATENTS

- *Manipulation of objects in potential energy landscapes.*
U.S. Patent 20090101807, New York University (2009).

FELLOWSHIPS AND AWARDS

- Oct. 2017 Visiting Fellowship (2 months; AU\$15000). University of Melbourne.
- Jan. 2017 IAS Developing Ideas Seed Award (£ 1.5k).
- Sept. 2016 Pump-priming awards from AMR INTEGRATE (EPSRC-funded) (Co-PI £ 48k).
- Sept. 2016 Leverhulme Research Grant (£ 300000; Co-I)
- June 2016 EPSRC AMR Pump Priming Award (tot. £50000; Co-I)
- Mar. 2016 Visiting Fellowship (€3000). University of the Balearic Islands.
- Sept. 2015 Royal Society Research Grant (£15000). UK.
- Oct. 2012 Visiting Fellowship (€1300). University of the Balearic Islands.
- Oct. 2010 - Sept. 2013 Junior Research Fellowship, Clare Hall, Cambridge.
- 2010 - 2013 EPSRC Postdoctoral Fellowship (£ 282.000). UK.
- 2008 - 2010 Marie Curie Intra-European Fellowship (€ 180.000). European Commission.

INVITED PRESENTATIONS (Conferences/Schools only)

- COST Active Matter Conference, Nice, France. Jan 2018 (Upcoming).
- CM-CDT and Higgs Summer School 2017, St. Andrews, UK. Sept. 2017.
- COST Flowing Matter Conference, Porto (Portugal). Jan 2017.
- STATPHYS Satellite Meeting, Roscoff (France). June 2015.
- Forschungszentrum Jülich SPP Summer School. September 2015.
- “Micro-Flows and Survival”. Lorentz Center, Leiden, The Netherlands. April 2015.
- DPG Spring Meeting, Berlin, Germany. March 2015.
- Jülich Soft Matter Days, Jülich, Germany, November 2014.
- European Fluid Mechanics Conference, Copenhagen, Denmark, September 2014.
- European Consortium for Mathematics in Industry (ECMI), Taormina, Italy, June 2014.
- Bio Phys Math Meeting: 2nd Edition, Nice, France, December 2013.
- Microscale Interactions in Aquatic Environments, Les Houches, France March 2013.
- Cell Physics Days 2011, ISIS, Strasbourg, France. November 2011.

REVIEWING ACTIVITY: Reviewing for: eLife; PNAS; Nat. Comm.; Sci. Rep.; Phys. Rev. Lett.; Phys. Rev. X; Roy. Soc. Interface; Phys. Rev. E; Biophys. J.; Europ. Phys. J. .

CURRENT PostGrad AND PDRA SUPERVISION

- 2014-2017 Dr. Raphaël Jeanneret, PDRA, University of Warwick.
- 2013-2017 Mr. Matteo Contino, PhD in Physics, University of Warwick.
- 2015-2019 Mr. Richard Henshaw, PhD in Physics, University of Warwick.
- 2017-2021 Mr. Lewis Mosby, PhD in Physics, University of Warwick.
- 2017-2021 Ms. Mira Latva, PhD in Biology, University of Warwick.
- 2017-2021 Mr. Iago Lopez-Grobas, PhD in Biology, University of Warwick.

- 2016-2017 Mr. George Parry, MSc-Res. in Physics, University of Warwick.

PUBLICATIONS

At a glance: Total number of publications: 22. h-index: 16. Sum of times cited: 1478. Six papers with >100 cit. and total of 12 papers with >40 cit.

- J. Arrieta, A. Barreira, M. Chioccioli, M. Polin, and I. Tuval. "*Phototaxis beyond turning: persistent accumulation and response acclimation of the micro alga Chlamydomonas reinhardtii.*" *Scientific Reports* (2017).
- D.R. Brumley, N. Bruot, J. Kotar, R.E. Goldstein, P. Cicuta, and M. Polin. "*Long-range interactions, wobbles and phase defects in chains of fluid-coupled oscillators.*" *Physical Review Fluids* (2016).
- R. Jeanneret, M. Contino, and M. Polin. "A brief introduction to the model microswimmer *Chlamydomonas reinhardtii.*" *European Physical Journal Special Topics* (2016).
- R. Jeanneret, D. O. Pushkin, V. Kantsler, and M. Polin. "*Particle entrainment dominates the interaction of microalgae with micron-sized objects.*" *Nature Communications* (2016).
- M. Contino, E. Lushi, I. Tuval, V. Kantsler, and M. Polin. "*Microalgae scatter off solid surfaces by hydrodynamic and contact forces.*" *Physical Review Letters* (2015).
- D.R. Brumley, M. Polin, T. J. Pedley, and R. E. Goldstein. "*Metachronal waves in the flagellar beating of Volvox and their hydrodynamic origin.*" *Royal Society: Interface* (2015).
- D.R. Brumley, Y. K. Wan, M. Polin, and R. E. Goldstein "*Flagellar synchronisation through direct hydrodynamic interactions.*" *eLife* (2014). **Selected for a "Insight" article in eLife.**
- K. C. Leptos, Y. K. Wan, M. Polin, I. Tuval, A. Pesci, and R. E. Goldstein. "*Antiphase synchronisation in a flagellar-dominance mutant of Chlamydomonas.*" *Physical Review Letters* (2013).
- V. Kantsler, J. Dunkel, M. Polin, and R.E. Goldstein. "*Ciliary contact interactions dominate surface scattering of swimming eukaryotes.*" *Proceedings of the National Academy of Sciences (USA)* (2012). **Highly cited paper** in Essential Science Indicators (Thomson Reuters).
- D. R. Brumley, M. Polin, T. J. Pedley, and R. E. Goldstein. "*Hydrodynamic synchronization and metachronal waves on the surface of the colonial alga Volvox carteri.*" *Physical Review Letters* (2012). **Selected for a "Synopsis" in Physics.**
- R. E. Goldstein, M. Polin, and I. Tuval. "*Emergence of synchronized beating during the regrowth of eukaryotic flagella.*" *Physical Review Letters* (2011).
- K. Drescher, R. E. Goldstein, N. Michel, M. Polin, and I. Tuval. "*Direct measurement of the flow field around freely swimming microorganisms.*" *Physical Review Letters* (2010). **Selected for a "Viewpoint" in Physics.**
- R. E. Goldstein, M. Polin, and I. Tuval. "*Noise and synchronization in pairs of beating eukaryotic flagella.*" *Physical Review Letters* (2009).
- M. Polin, I. Tuval, K. Drescher, J. P. Gollub, and R. E. Goldstein. "*Chlamydomonas swims with two "gears" in a eukaryotic version of run-and-tumble locomotion.*" *Science* (2009). **Selected for Perspective article in Science.**
- T. M. Garoni, G. Ossola, M. Polin, and A. D. Sokal. "Dynamic critical behavior of the Chayes-Machta algorithm for the random-cluster model. I. Two dimensions." *Journal of Statistical Physics* (2011).
- M. Polin, Y. Roichman, and D. G. Grier. "Auto-calibrated colloidal interaction measurements with extended optical traps." *Physical Review E* (2008).
- M. Polin, D. G. Grier, and Y. Han. "Colloidal electrostatic interactions near a conducting surface." *Physical Review E* (2007).
- Y. Deng, T. M. Garoni, J. Machta, G. Ossola, M. Polin, and A. D. Sokal. "Critical behavior of the Chayes-Machta-Swendsen-Wang dynamics." *Physical Review Letters* (2007).
- M. Polin, D. G. Grier, and S. Quake. "Anomalous vibrational dispersion in holographically trapped colloidal arrays." *Physical Review Letters* (2006).
- M. Polin, K. Ladavac, S. Lee, Y. Roichman, and D. G. Grier. "Optimized Holographic Optical Traps." *Optics Express* (2005).
- S. Lee, K. Ladavac, M. Polin, and D. G. Grier. "Observation of flux reversal in a symmetric optical thermal ratchet." *Physical Review Letters* (2005).