

**Jérémie Palacci, Ph.D.**  
**Assistant Professor, IST Austria**

**Keywords**

Experimental Soft Matter Physics, Interfacial Transport, Self-Organization, Active Matter

**Education and Training**

Ecole Normale Supérieure de Lyon, France	Physics	BS	2004
Ecole Normale Supérieure de Lyon, France	Physics	MS	2007
Université de Lyon, Lyon 1, France	Soft Matter	PhD	2010

**Research and Professional Experience**

7//21-present	◇ Assistant Professor ◇ IST Austria
	◇ Adjunct Associate Professor of Physics ◇ UC San Diego
6/20-6/21	◇ Associate Professor of Physics (with Tenure) ◇ UC San Diego
1/15-6/20	◇ Assistant Professor of Physics ◇ UC San Diego
2014	◇ Visiting Professor of Mathematics ◇ Courant Institute, NYU
2010-2014	◇ Postdoctoral Fellow ◇ Center for Soft Matter Research, NYU

**Selected Honors and Awards**

2020-21	Visiting Professor, Ecole Normale Supérieure, Paris, France (9months)
2020	Visiting Professor, Chaire Total, ESPCI, Paris, France (1month)
2018	Hellman Fellow in Physics
2017	Sloan Research Fellow in Physics
2016	National Science Foundation CAREER Award
2014	Blavatnik Postdoctoral Finalist Award in Physical Sciences and Engineering
2011	Michelin Dissertation Award, French Physical Society (SFP)

**Publications [20 papers, 1 patent, h=15, >3400 citations (google scholar)]**

<https://scholar.google.com/citations?hl=en&authuser=1&user=2s9gCAAAAJ>

**In Preparation | Submitted**

- “*Light-Templated Assembly of Colloidal Metamachines*”,  
A. Aubret, Q. Martinet, J. Palacci
- “*Novel Tracers to disentangle phoretic and hydrodynamic interactions*”,  
A. Aubret, C. Carrasco, Q. Martinet, J. Palacci
- “*Synchronization of colloidal clocks*”  
J. M. Huang, Y. Li, A. Aubret, J. Palacci

[20] “**Life on the Osmotic Slopes**”

L. Bocquet & J. Palacci, *Nature Physics*, in press

[19] “**Decision-making at a T-junction by gradient-sensing microscopic agents**” [Editor’s Suggestion]

T. Gandhi, J. M. Huang, A. Aubret, D. Li, S. Ramanarivo, M. Vergassola, J. Palacci, *Physical Review Fluids*, 5, 2020

[18] “**Focus on Active Colloids and Nanoparticles**”

T. Speck, J. Tailleur, J. Palacci, *New Journal of Physics*, 22, 2020

[17] “**Ionic Solids from Common Colloids**”

T. Hueckel, G. Hocky, J. Palacci, S. Sacanna, *Nature*, 580, 2020

- [16] "**Rapid characterization of neutral polymer brush with a conventional zetameter and a variable pinch of salt**"  
Y. Mena, A. Morin, A. Aubret, S. Sacanna, J. Palacci, *Soft Matter*, 17, 2020
- [15] "**Activity-controlled Annealing of Colloidal Monolayers**"  
S. Ramananarivo, E. Ducrot, J. Palacci, *Nature Communications*, 2019
- [14] "**Diffusiophoretic Design of Self-spinning Microgears from Colloidal Microswimmers**"  
A. Aubret, J. Palacci, *Soft Matter*, 14, 2018
- [13] "**Targeted Assembly and Synchronization of Self-Spinning Microgears**"  
A. Aubret, Y. Mena, S. Sacanna, J. Palacci, *Nature Physics*, 2018  
News & Views by Peer Fischer, "A Machine from Machines"
- [12] "**Eppur si Muove, and Yet it Moves: Patchy (Phoretic) Swimmers**" [invited review]  
A. Aubret, S. Ramananarivo, J. Palacci, *Current Opinion in Colloid & Interface Science*, 30, 2017
- [11] "**Trochoidal trajectories of self-propelled Janus particles in a diverging laser beam**"  
H.W. Moyses, J. Palacci, S. Sacanna, D.G. Grier, *Soft Matter*, 12, 2016
- [10] "**Dynamic self-assembly of microscale rotors and swimmers**"  
M. S. Wykes, J. Palacci, T. Adachi, L. Ristroph, X. Zhong, M.D. Ward, J. Zhang, M.J. Shelley, *Soft Matter*, 12, 2016
- [9] "**Artificial Rheotaxis**"  
J. Palacci, A. Abramian, S. Sacanna, J. Barral, K. Hanson, A.Y. Grosberg, D.J. Pine, P.M. Chaikin, *Science Advances*, 1, 2015
- [8] "**Light Activated Self-Propelled Colloids**" [invited paper]  
J. Palacci, S. Sacanna, S.-H. Kim, G.-R. Yi, D.J. Pine, P.M. Chaikin, *Phil. Trans. Roy. Soc. A*, **372**, 2014
- [7] "**Hydrodynamic capture of microswimmers into sphere-bound orbits**"  
D. Takagi, J. Palacci, A. Braunschweig, M. Shelley, J. Zhang, *Soft Matter*, **10**, 2014
- [6] "**Photo Activated Colloidal Dockers for Cargo Transportation**"  
J. Palacci, S. Sacanna, A. Vatchinsky, P.M. Chaikin, D.J. Pine, *JACS*, **135**, 2013
- [5] "**Living Crystals of Light Activated Colloidal Surfers**"  
J. Palacci, S. Sacanna, A. Preska-Steinberg, D.J. Pine, P.M. Chaikin, *Science*, **339**, 2013  
Highlighted in Nature Materials  
In the News: L.A. Times, wired.com, Ars Technica, New Scientist, The Verge, Engadget, Gizmodo.
- [4] "**Dynamic Clustering in Active Colloidal Suspensions with Chemical Signalling**"  
I. Theurkauff, C. Cottin-Bizonne, J. Palacci, C. Ybert, L. Bocquet, *Physical Review Letters*, **108**, 2012
- [3] "**Osmotic Traps for Colloids and Macromolecules based on logarithmic sensing in salt taxis**"  
J. Palacci, C. Cottin-Bizonne, C. Ybert, L. Bocquet, *Soft Matter*, **8**, 2012
- [2] "**Sedimentation and Effective Temperature of Active Colloidal Suspensions**"  
J. Palacci, C. Cottin-Bizonne, C. Ybert, L. Bocquet, *Physical Review Letters*, **105**, 2010
- [1] "**Colloidal Motility and Pattern Formation under Rectified Diffusiophoresis**"  
J. Palacci, B. Abecassis, C. Cottin-Bizonne, C. Ybert, L. Bocquet, *Physical Review Letters*, **104**, 2010
- [B] J. Palacci, S. Sacanna, D.J. Pine, P.M. Chaikin, "Self-Assembled Particles", *US Patent* 20,150,352,526

## **External Professional Activities**

**1. Peer Review.** Peer Reviewer for *Nature Materials*, *Nature Physics*, *Nature Communications*, *Science Robotics*, *PNAS*, *Science Advances*, *Physical Review Letters*, *Soft Matter*, *Journal of Fluid Mechanics*, *Small*...

Proposal Reviewer for the European Research Council (ERC), US-Israel Binational Science Foundation (NSF-BSF), Department of Energy, Army Research Office...

## 2. Invited Talks & Conferences.

[2015] Non-Equilibrium Collective Dynamics, NECD15, (Postdam, Germany); Active Liquids Workshop (Leiden, Netherlands); 12<sup>th</sup> Frontiers in Applied and Computational Mathematics (NJIT, USA).

[2016] Outreach Session, APS March Meeting (Baltimore, USA); Soft and Active Matter Workshop (07/16), Roscoff, France.

[2017] International Conference on Nano and Micromachines (08/17), Wuhan, China

[2018] Fundamental Problems in Active Matter [Focus Session Organizer] (2/18, Aspen School of Physics); PRISM Colloquium (Princeton U., 9/18);

[2019] LPS Seminar (ENS Paris, 1/19); Applied Physics Seminar (UNC Chapel Hill, 3/19); Physics Colloquium Texas A&M (4/19); CECAM Workshop Invited Speaker (EPFL, 3/19), COINS Symposium Invited Speaker (HKU, 6/19), MML19 Invited Speaker (Dresden, 7/19), Leiden (11/19)

[2020] IST Austria (2/20), Brandeis MRSEC Colloquium (Zoom, 6/20), MSC (Zoom, 5/20)

[2021] Fluids seminar (Brown U., Zoom, 2/21), IUSTI Seminar (Marseille, 6/21)

## Outreach

**Participation to the Young Physicist Program** (YPP, UCSD), 04/16, “**Physics and Chemistry in the Brewery**” [Invited Talk, Forum on Outreach], APS March Meeting 2016, Baltimore, **A night of Physics and Beer**, (general public outreach event at Mike Hess Brewery, attendance 40-50 people, SD 5/17). **Participation to Two Scientists walk into a bar** with the Science Fleet Center, SD (3 participations 2015-present), **Keynote Speaker at the Texas A&M Science festival** (4/19, “The science in the Brewery”), a week end of science with 5000 attendees from the general public (<http://physicsfestival.tamu.edu/>).

## Student Instructional Activities (blue, current members)

Undergraduates	K. Mackiewicz (research advisor) [now grad. student At U. Chicago]	3/15-7/17
	A. Vyas (research advisor) [now grad. student at NYU]	10/17-6/2018
	T. Gandhi (research advisor) [now grad. school @ U. Chicago]	10-16-7/19
	Desmond Li (research advisor) [now grad. school @ U. Chicago]	10/18-6/19
	Celso Carrasco (research advisor) [left for Startup]	7/19-5/21
	Moyuan Chen (research advisor) [entering grad. school at IST Austria]	6/20-present
Graduate Student	N. Agre (left with a Master degree)	7/17-3/20
	D. Grover	9/19-present
Postdocs	S. Ramanarivo (now faculty at Ecole Polytechnique, France)	10/15-8/17
	A. Aubret (now faculty at CNRS, France)	11/15-8/20
	Mac. Huang (now faculty at NYU Shanghai, China)	10/18-
	Alexandre Morin [co-advised with S. Sacanna (NYU)] (now faculty at Leiden U., Netherlands)	11/18-8/20
	Q. Martinet	2/20-present