

Wagner, Gregory LeClaire

Postdoctoral researcher

CONTACT	<div>✉ wagner.greg@gmail.com</div> <div>🌐 http://glwagner.github.io</div> <div>☎ (781) 710-0871</div>		Gregory Wagner 147 Granite Street Rockport, Massachusetts 01966
EDUCATION	PhD (2016)	Mechanical and Aerospace Engineering, University of California, San Diego	
	MSE (2010)	Aerospace Engineering, University of Michigan, Ann Arbor	
	BSE (2009), <i>Magna Cum Laude</i>	Aerospace Engineering, University of Michigan, Ann Arbor	
INTERESTS	Fluid dynamics, geophysical fluid dynamics, waves, turbulence, biological physics		
RESEARCH EXPERIENCE	PhD at University of California, San Diego		2010–2016
	<ul style="list-style-type: none">• Dissertation titled “On the coupled evolution of oceanic internal waves and quasi-geostrophic flow” (with William R. Young)• Mixing and swimming in stratified and unstratified low Reynolds number flow (with Eric Lauga and William R. Young)• Theory of friction-based locomotion (with Eric Lauga)		
	Fellow at the WHOI program in Geophysical Fluid Dynamics		Summer 2013
	<ul style="list-style-type: none">• Project on granular fluid dynamics and granular flow in a rotating drum (with Neil Balmforth)		
	Undergraduate Research at the University of Michigan		2008–2010
	<ul style="list-style-type: none">• Electrostatic simulations in complex geometries for controlling particle charge in a micro/nanoparticle electrostatic propulsion system (with Tom Liu)• Numerical simulation of one-dimensional combustion (with Matthias Ihme)		
INDUSTRY EXPERIENCE	Product Engineer, Accio Energy, Inc., Ann Arbor, Michigan		January–June, 2010
	<ul style="list-style-type: none">• Development of novel wind energy technology utilizing windy advection of charged droplets• Modeling of force balances and droplet cloud electric fields, experimental design		
TEACHING	Teaching Assistant, Fluid Dynamics II (grad)		Winter 2014
	Teaching Assistant, Introduction to Mathematical Physics (undergrad)		Spring and Fall 2015
ACTIVITIES	<ul style="list-style-type: none">• Flow Encountering Abrupt Topography (FLEAT) cruise, Palauan Pacific, June 2016• Arctic Mix cruise looking waves and mixing in the Beaufort Sea, Sept 2015• Fellow, WHOI Program in Geophysical Fluid Dynamics, Summer 2013• <i>Softflow</i>: workshop in Biological Complex Fluids, Cargese, France, July 2012• Social Coordinator, UCSD Graduate Student Association, 2013–2014• President, Students for the Exploration and Development of Space, University of Michigan, 2010		
AWARDS	<ul style="list-style-type: none">• Postdoctoral fellowship 2016–2018, NOAA Climate and Global Change program• 2016 Outstanding Teaching Assistant Award, Dept of Mech and Aerospace Engineering, UCSD• Focht-Powell Fellowship 2010–2013, Dept of Mech and Aerospace Engineering, UCSD• James B. Angell Scholar, University of Michigan, March 15, 2009• Dean’s List, University of Michigan, Winter ’06, Winter ’07, Fall ’08, Winter ’09		

PUBLICATIONS

1. **An asymptotic model for the slow evolution of internal tides in quasi-geostrophic flow**
Gregory L. Wagner, Gwenäel Ferrando, and William R. Young
in preparation for the Journal of Fluid Mechanics
2. **A three-component model for the coupled evolution of near-inertial waves, quasi-geostrophic flow, and the near-inertial second harmonic**
Gregory L. Wagner and William R. Young
Journal of Fluid Mechanics, **2016**, 802
3. **A tale of two spicy seas**
Jennifer A. MacKinnon, Jonathan D. Nash, Matthew H. Alford, Andrew J. Lucas, John B. Mickett, Emily L. Shroyer, Amy F. Waterhouse, Amit Tandon, D. Sengupta, Amala Mahadevan, M. Ravichandran, Robert Pinkel, Daniel L. Rudnick, Caitlin B. Whalen, Marion S. Alberty, J. Sreelekha, Elizabeth C. Fine, D. Chaudhuri, and **Gregory L. Wagner**
Oceanography, 2016
4. **Available potential vorticity and wave-averaged quasi-geostrophic flow**
Gregory L. Wagner and William R. Young
Journal of Fluid Mechanics, **2015**, 785
5. **Mixing by microorganisms in stratified fluids**
Gregory L. Wagner, William R. Young, and Eric Lauga
Journal of Marine Research, **2014**, 72
6. **Bubble-Propelled Micromotors for Enhanced Transport of Passive Tracers**
Jahir Orozco, Beatriz Jurado-Sanchez, **Gregory Wagner**, Wei Gao, Rafael Vazquez-Duhalt, Sirilak Sattayasamitsathit, Michael Galarnyk, Allan Cortes, David Santillan, Joseph Wang
Langmuir, **2014**, 30(18)
7. **Crawling scallop: Friction-based locomotion with one degree of freedom**
Gregory L. Wagner and Eric Lauga
Journal of Theoretical Biology, **2013**, 324
8. **Specific Charge Control for Micro/Nano-Particle Electrostatic Propulsion**
T. Liu, G. L. Wagner, A. Gallimore, B. Gilchrist, and P. Peterson
AIAA-2009-5090, 45th AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Denver, CO, 2-5 August 2009