TOMÁS L. CHOR

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ABOUT ME

I am a PhD candidate at UCLA investigating material transport in the Oceanic Mixed Layer who is very interested in small scale geophysical turbulence in general (both in the ocean and atmosphere) and numerical modelling. I'm also enthusiastic about programming and open-source initiatives.

EDUCATION

Ph.D. Atmospheric and Oceanic Sciences
University of California, Los Angeles   Expected in 2020
Investigating scalar transport in geophysical boundary layers

M.Sc. Environmental Engineering
Federal University of Paraná, Curitiba   March 2014
Investigated analytical and numerical aspects of aquifer discharge

B.Sc. Environmental Engineering
Federal University of Paraná, Curitiba   January 2012

RELEVANT PROFESSIONAL EXPERIENCE

Climatempo   June 2014 — July 2015
Researcher   *São Paulo, Brazil*
· Ran dispersion models and forecasted wind power supply for the wind energy industry

Federal University of Paraná   December 2010 — April 2014
Researcher   *Curitiba, Brazil*
· Meteorological and micrometeorological field measurements as well as data processing

AWARDS AND SCHOLARSHIPS

Research assistantship   January 2017 — Present
· Awarded by the Gulf Of Mexico Research Initiative

Research scholarship   August 2015 — August 2016
· Awarded by the National Institute for Amazonian Research and the Max Planck Institute for Chemistry to work on the Amazonian Tall Tower Observatory project

"Odelar Leite Linhares" award   October 2014
· Best Masters thesis award from the Brazilian Society for Applied and Computational Mathematics.

CAPES scholarship for masters   March 2012 — March 2014
· Awarded by the Coordination for the Improvement of Higher Education Personnel.

PUBLICATIONS

Journal publications

[1] Marcelo Chamecki, **Chor, Tomas**, Di Yang, and Charles Meneveau. "Material transport in the ocean mixed layer: recent developments enabled by large eddy simulations". In: *Reviews of Geophysics* (2019). In press.

[2] **Chor, Tomas**, Ailín Ruiz de Zárate, and Nelson L. Dias. "A Generalized Series Solution for the Boussinesq Equation With Constant Boundary Conditions". In: *Water Resources Research* 55.4 (2019), pp. 3567–3575. DOI: 10.1029/2018WR024154.

[3] Cléo Quaresma Dias-Júnior, ..., **Chor, Tomas**, and Antonio Manzi. "Is There a Classical Inertial Sublayer Over the Amazon Forest?" In: *Geophysical Research Letters* 46.10 (2019), pp. 5614–5622. DOI: 10.1029/2019GL083237.

[4] **Chor, Tomas**, Di Yang, Charles Meneveau, and Marcelo Chamecki. "A Turbulence Velocity Scale for Predicting the Fate of Buoyant Materials in the Oceanic Mixed Layer". In: *Geophysical Research Letters* 45.21 (2018), pp. 11, 817–11, 826. DOI: 10.1029/2018GL080296.

[5] **Chor, Tomás**, Di Yang, Charles Meneveau, and Marcelo Chamecki. "Preferential concentration of noninertial buoyant particles in the ocean mixed layer under free convection". In: *Phys. Rev. Fluids* 3 (6 2018), p. 064501. DOI: 10.1103/PhysRevFluids.3.064501.

[6] **Tomás L. Chor**, Nelson L. Dias, Alessandro Araújo, and ... "Flux-variance and flux-gradient relationships in the roughness sublayer over the Amazon forest". In: *Agricultural and Forest Meteorology* 239 (2017), pp. 213–222. ISSN: 0168-1923. DOI: http://dx.doi.org/10.1016/j.agrformet.2017.03.009.

[7] Einara Zahn, **Chor, Tomas L.**, and N. L. Dias. "A Simple Methodology for Quality Control of Micrometeorological Datasets". In: *American Journal of Environmental Engineering* 6.4A (2016), pp. 135–142. DOI: 10.5923/s.ajee.201601.20.

[8] **Chor, Tomas L.** and N. L. Dias. "Technical Note: A simple generalization of the Brutsaert and Nieber analysis". In: *Hydrology and Earth System Sciences* 19.6 (2015), pp. 2755–2761. DOI: 10.5194/hess-19-2755-2015.

[9] Nelson L. Dias, **Chor, Tomás L.**, and Ailín Ruiz de Zárate. "A semianalytical solution for the Boussinesq equation with nonhomogeneous constant boundary conditions". In: *Water Resources Research* 50.8 (2014), pp. 6549–6556. ISSN: 1944-7973. DOI: 10.1002/2014WR015437.

[10] **Chor, Tomas**, N. L. Dias, and Ailín Ruiz de Zárate. "An exact series and improved numerical and approximate solutions for the Boussinesq equation". In: *Water Resources Research* 49.11 (2013), pp. 7380–7387. DOI: 10.1002/wrcr.20543.

[11] B. L. Crivellaro, N. L. Dias, and **Chor, Tomas**. "Spectral Effects on Scalar Correlations and Fluxes". In: *American Journal of Environmental Engineering* 3.1 (2013), pp. 13–17. DOI: 10.5923/j.ajee.20130301.03.

Invited talks

[1] T. Chor. "Pymicra, the Python tool for Micrometeorological Analyses". In: *Programa de Pós-graduação em engenharia ambiental, UFPR, Curitiba*. (Invited speaker). 2016.

[2] T. Chor. "New analytic solutions to the nonlinear Boussinesq equation for underground water". In: *Seminários Contínuos do Departamento de Matemática, UFPR, Curitiba*. (Invited speaker). 2014.

[3] T. Chor. "New analytic solutions to the nonlinear Boussinesq equation for underground water". In: *CNMAC – National Conference on Applied and Computational Mathematics*. (Invited speaker). 2014.

Book chapters

[1] N. L. Dias, Cynara Cunha, Dornelles Vissotto Junior, Maurício F Gobbi, Fernando A S Armani, Lucas E B Hoeltgebaum, Tomás L Chor, and Bianca L Crivellaro. *BALCAR project: Greenhouse gas emissions from hydroelectric dam reservoirs (in Portuguese)*. Chapter 5: Modelling. CEPEL, 2014.

Recent conference participations

[1] **Chor, T**, J C McWilliams, and M Chamecki. "Dust-devil-like vortices in the oceanic mixed layer". In: *22nd Conference on Atmospheric and Oceanic Fluid Dynamics*. Poster. 2019.

[2] **Chor, T.**, C. Meneveau, D. Yang, and M. Chamecki. "The dynamics of buoyant particles in the Ocean surface Mixed Layer under free-convection". In: *AGU Ocean Sciences Meeting*. Poster and talk. 2018.

[3] **Chor, T.**, C. Meneveau, D. Yang, and M. Chamecki. "The effect of oil droplet size on the surface signature of oil plumes under free-convection". In: *Gulf of Mexico oil spill and Ecosystem Science Conference*. Talk. 2018.

[4] **Chor, T.** and N. Dias. "Pymicra: A Python tool for Micrometerological Analyses". In: *AGU Fall Meeting*. Poster. 2017.

OTHER EXPERIENCES

The Burgers Program Research School on Fluid Dynamics	June 2018
Participant	*University of Maryland*

· Talks and workshops on several aspects of turbulence

The San Diego Supercomputing Center Summer Institute	August 2019
Participant	*University of California, San Diego*

· Workshops on how to do high-performance computing in research

RELEVANT TEACHING, OUTREACH AND MENTORSHIP

Author of TED-Ed video on Turbulence	April 2019

· Conceived and wrote script for TED-Ed video with the goal or popularizing the topic of Turbulence

Research mentor	Fall 2018
UCLA	

· Mentored an undergraduate student on a project collecting high-frequency atmospheric data

Teaching assistant	Winter 2018 and Fall 2018
UCLA	

· Teaching introduction to meteorology (3 quarters)

Volunteer in the Exploring Your Universe (EYU) event	April 2018
UCLA	

· Interacted with attendees of EYU, which is a large outreach event focusing on popularizing science to children

Student Recruitment Chair	Fall 2017 to Fall 2018
XEP, UCLA	

· Organized recruitment efforts and events for incoming graduate students

University teaching experience	2013

· Several applied math classes for up to 45 third-year engineering students at the Federal University of Paraná.

OTHER RELEVANT SKILLS

Software developer
· Creator and developer of Pymicra, the Python tool for Micrometeorological Analyses, among other python packages.

Programming languages
· Python, Fortran, Julia, Bash

Languages
· Portuguese as native language
· Fluent English and Spanish
· Basic French