

Delphine HYPOLITE, Ph.D.

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Pronouns: She/Her

Nationality: French

Positions

Since 2023

UCLA

ATMOSPHERIC & OCEANIC SCIENCES, UCLA, Los Angeles, California, USA.
Assistant researcher in physical oceanography.
Publication records available online [here](#).

2017 – 2023

ATMOSPHERIC & OCEANIC SCIENCES, UCLA, Los Angeles, California, USA.
Postdoctoral researcher in physical oceanography.

2015 – 2017



LABORATORY DYNAMICS OF STARS, (EXO)-PLANETS AND THEIR ENVIRONMENT, CEA, Paris, France.
Engineer-researcher in astrophysical fluid dynamics.

Fundings

2023

Travel grant from the NSF-funded DOCC program of California State University Monterey Bay.

Project Title: From sea to sand.

(Amount awarded: \$8,000).

2022 – 2025



NSF Standard grant OCE. Award Number (FAIN): 2124174.

Project Title: Submesoscale and surface gravity wave interactions on the continental shelf.

(Amount awarded: \$472,667).

Education

2017

University qualification delivered by the French government, section: Astronomy and Astrophysics (qualification number: 17234293097).

2012 – 2015



UNIVERSITY OF TOULOUSE, Toulouse, France.

Ph.D. Astrophysical fluid dynamics: stellar physics.

Ph.D. thesis available online [here](#) (in French).

2010 – 2012

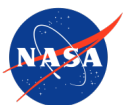
UNIVERSITY OF TOULOUSE, Toulouse, France.

M.S. Astrophysics, Space Sciences and Planetology.

Graduated with high honors.

Observations

2020 – 2023



NASA Sub-Mesoscale Ocean Dynamics Experiment (S-MODE) mission.

ROMS modeler & operator of the Multiscale Observing System of the Ocean Surface (MOSES) instrument from the NASA Armstrong Flight Research Center and NASA Ames Research Center, California, USA.

Since 2020

UCLA

Certified captain of the [UCLA marine operation vessel](#).

For data collections by UCLA graduate and undergraduate students in Santa Monica Bay.

2011–2015 Service of astronomical observations for the French government using the telescope [Bernard Lyot](#) at the Pic du Midi, France.

Teaching experiences

2017 – 2018 [PARIS CITÉ UNIVERSITY](#).
▷ *Physics to undergraduate pre-medical students.*



2016 – 2017 [UNIVERSITY PARIS-SACLAY](#).
▷ *Numerical simulations of stellar interiors - to senior year master students from the Analysis, Modelisation, Simulation Master program.*



2013 – 2015 [UNIVERSITY OF TOULOUSE](#).
▷ *Optics, fluid mechanics, nuclear physics, electromagnetism, NMR - to undergraduate students.*



2010-2012 [ACADOMIA](#), Toulouse.
▷ *Mathematics, physics - to high school seniors.*



Involvement in associations

Since 2018 [SURFRIDER FOUNDATION](#), Los Angeles, USA.
Outreach events, beach cleaning & climate change awareness activism.



2017–2018 [LOS ANGELES LGBT CENTER](#), Los Angeles, USA.
Volunteering & fundraising for AIDS/LifeCycle.



2012–2014 [LES ÉTOILES BRILLANT POUR TOUS \(STARS SHINE FOR EVERYONE\)](#), Toulouse, France.
Outreach events.



List of publications

2023 *Langmuir circulations transfer kinetic energy from submesoscales and larger scales to dissipative scales.*

D. Hypolite, L. Romero, J.C. McWilliams, D.P. Dauhajre, *Journal of Physical Oceanography*.

2023 *Interactions Between Internal Tidal Bores and Submesoscale Currents on the Continental Shelf.*

D.P. Dauhajre, J.C. McWilliams, **D. Hypolite**, *Journal of Geophysical Research*.

2021 *Surface gravity wave effects on submesoscale currents in the open ocean.*

D. Hypolite, L. Romero, J.C. McWilliams, D.P. Dauhajre, *Journal of Physical Oceanography*.

2021 *Representing wave effects on currents.*

L. Romero, **D. Hypolite**, J.C. McWilliams, *Ocean Modelling*.

- 2021** *Effects of Stratification on Shoaling Internal Tidal Bores.*
D.P. Dauhajre, M.J. Molemaker, J.C. McWilliams, **D. Hypolite**, Journal of Physical Oceanography.
- 2020** *Submesoscale current effects on surface waves.*
L. Romero, **D. Hypolite**, J.C. McWilliams, Ocean Modelling.
- 2018** *The 2D dynamics of radiative zones of low mass stars.*
D. Hypolite, S. Mathis and M. Rieutord, Astronomy & Astrophysics.
- 2016** *The 2D dynamics of the differentially rotating envelope of massive stars.*
D. Hypolite, S. Mathis and M. Rieutord, Proceedings of the International Astronomical Union.
- 2016** *2D dynamics of the radiative core of low mass stars.*
D. Hypolite, S. Mathis and M. Rieutord, Proceeding of "Seismology of the Sun and the Distant Stars 2016, Joint TASC2 & KASC9 Workshop - SPACEINN & HELAS8 Conference" (ed. Mário J. P. F. G. Monteiro, Margarida S. Cunha, João Miguel T. Ferreira), Azores, Portugal, 11-15 July 2016.
- 2016** *2D dynamics of the radiation zone of low mass stars.*
D. Hypolite, S. Mathis and M. Rieutord, Proceeding of "The 19th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun" (ed. G. A. Feiden), Uppsala, Sweden, 06-10 June 2016.
- 2014** *Dynamics of the envelope of a rapidly rotating star or giant planet in gravitational contraction.*
D. Hypolite and M. Rieutord, Astronomy & Astrophysics.

Articles reviewer

Journal of Physical Oceanography (JPO; impact factor 3.806).
 Geophysical Research Letters (GRL; impact factor 5.79).
 Journal of Geophysical Research (GJR; impact factor 3.303).
 Environmental Science & Technology (Environ. Sci. Technol.; impact factor 11.357).
 Advances in Atmospheric Sciences (Adv Atmos Sci; impact factor 3.158).
 Ocean-Land-Atmosphere Research (OLAR; impact factor 2.058) .

Participation in seminars, conferences and programs

- 2023** **Seminars**, *Surface gravity wave effects on submesoscale currents and the SMODE NASA mission*, University of California, Santa Cruz, California.
- 2023** **Invited seminar**, *Langmuir circulations transfer kinetic energy from submesoscales and larger scales to dissipative scales*, Oregon State University, Oregon.
- 2022** **Oral**, *Langmuir circulations transfer kinetic energy from submesoscales and larger scales to dissipative scales*, EPOC 2022, Oregon.
- 2022** **Session chair**, *Mesoscale and submesoscale fluxes and dynamics in the eastern Pacific*, EPOC 2022, Oregon.
- 2022** **Oral**, *Wave-current interactions on submesoscales with ROMS, MOSES and DopplerScatt*, NASA S-MODE Science Meeting.
- 2022** **Oral**, *Langmuir circulations transfer kinetic energy from submesoscales and larger scales to dissipative scales*, CalGFD, Caltech, Pasadena.
- 2022** **Participant**, in the selective [NSF Diverse Ocean science Community through Collaboration program \(DOCC\)](#), California State University Monterey Bay.
- 2022** **Seminar**, *Surface gravity wave effects on submesoscale currents in the open ocean*, UCLA, Los Angeles.

- 2022** **Session chair**, *Towards an understanding of how multiscale ocean-atmosphere interactions modulate fluxes in the air-sea boundary layer*, Ocean Sciences Meeting 2022.
- 2022** **Oral**, *Surface gravity wave effects on submesoscale currents in the open ocean*, Ocean Sciences Meeting 2022.
- 2022** **Invited seminar**, *Surface gravity wave effects on submesoscale currents in the open ocean*, Scripps Institute of Oceanography, San Diego.
- 2021** **Oral**, *Wave effects on submesoscale currents in the open ocean, from MidCal ROMS solutions*, NASA S-MODE Science Meeting.
- 2020** **Poster**, *Why is there an eddy gap in the Northern California Current System?*, Ocean Sciences Meeting 2020, San Diego.
- 2018** **Poster**, *Submesoscale circulation and vertical flux in the California Current System*, EPOC 2018, Oregon.
- 2017** **Oral**, *The 2D dynamics of the radiative envelope of massive stars*, Stellar Hydro Days IV, Victoria, Canada.
- 2017** **Oral**, *2D rotational dynamics of massive stars' radiative zone*, Towards a New Generation of Massive Star Models, Bern, Switzerland.
- 2016** **Poster**, *The Lives and Death-Throes of Massive Stars*, IAU 2016, Auckland, New Zealand.
- 2016** **Oral**, *2D dynamics of radiative zone of low-mass stars*, Seismology of the Sun and the Distant Stars 2016, Azores, Portugal.
- 2016** **Conference organizer**, *Astro fluid*, Paris, France.
- 2016** **Poster**, *Cool stars*, Uppsala, Sweden.
- 2015** **Summer school graduate**, MESA, KITP, University of California Santa Barbara.
- 2015** **Oral**, *Dynamics of rapidly rotating stars in gravitational contraction*, SF2A, Toulouse, France.
- 2014** **Summer school attendee**, *New challenges in turbulence research III*, Les Houches, France.
- 2013** **Participant**, *400 years of stellar rotation*, Natal, Brazil.
- 2013** **Evry Schatzman School attendee**, *The ages of stars*, Roscoff, France.
- 2013** **Participant**, *New advances in stellar physics: From microscopic to macroscopic processes*, Roscoff, France.
- 2013** **Oral**, *A two-dimensional model of gravitationally contracting rotating star*, Nordita, Stockholm, Sweden.
- 2012** **Evry Schatzman School attendee**, *Role and mechanisms of angular momentum transport during the formation and early evolution of stars*, Aussois, France.