CHENG-YANG (SUNNY) YEH

sunnyyeh@atmos.ucla.edu February 13, 2026

Sep 2021 – Present	Ph.D. Student *(Jun. 2026 expected degree completion, Dec. 2024 candidacy, Dec. 2023 master's degree)* in the Department of Atmospheric and Oceanic Sciences University of California, Los Angeles; *Thesis Proposal: "Constraining Oceanic Mesoscale Energy Dissipation"; Advisors: Andrew Stewart and James McWilliams*
Sep 2018 – Dec 2019	M.S. in the Graduate Institute of Hydrological and Oceanic Sciences, National Central University, Taiwan: *Thesis: "A UAV-RTK-Lidar system measurements of wave energy dissipation over a sandy beach and an algal-reef area"*
Sep 2014 – Jun 2018	B.S. in the Department of Earth Sciences, National Central University, Taiwan

PEER-REVIEWED PUBLICATIONS

3. **C. Yeh**, A. L. Stewart, J. C. McWilliams. Satellite- and Argo-Constrained Global Estimates of Near-Seafloor Mesoscale Eddy Kinetic Energy and Bottom Drag Dissipation Rates. *In prep*
2. **C. Yeh**, A. L. Stewart, J. C. McWilliams. Regimes of oceanic mesoscale energy dissipation at western boundaries. *accepted by Journal of Physical Oceanography*, DOI: 10.1175/JPO-D-25-0059.1
1. Huang, Z., **C. Yeh**, K. Tseng, and W. Hsu, 2018: A UAV-RTK Lidar system for wave and tide measurements in coastal zones. *Journal of Atmospheric and Oceanic Technology*, 35, 1557–1570, 2018, 10.1175/JTECH-D-17-0199.1.

PROFESSIONAL SKILLS AND PUBLISHED TOOLS

MATLAB, Geophysical Fluid Dynamics (Rossby wave dynamics, shallow water equations, isopycnal coordinate, energy budget), Rotating tank, Global current-meter dataset GMACMD (Scott et al. 2010, 2011) analysis, MATLAB Parallel Computing, Python, machine learning pipeline, Unmanned Aerial Vehicle (UAV) applicaitons, Fourier Analysis for ocean surface waves, Empirical Orthogonal Functions (EOF) analyses, EOF_vertical (https://github.com/sunnyyeh3725/EOF_vertical.git)

FELLOWSHIP AND COMPUTATIONAL SUPPORT

Apr 2025 – Jun 2025	J Yang Fellowship, *$14,000*, *Asia Pacific Center*, University of California, Los Angeles
Sep 2021 – Jun 2024	Government Scholarship to Study Abroad, *$147,000*, *Ministry of Education*, Taiwan
May 2025 – May 2026	"EES250071: Using Machine Learning and Satellite Measurement to Estimate Global Bottom Drag Dissipation", 200,000 ACCESS credits, EXPLORE Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support (ACCESS), P.I. Cheng Yang Yeh

HONORS AND AWARDS

- *Outstanding Student Presentation Award*, California Geophysical Fluid Dynamics (CalGFD) meeting, 2023, Scripps, La Jolla, CA
- *Young Scientist Award*, The 9^{th} Chinese-German Joint Symposium on Hydraulic and Ocean Engineering, 2018, National Cheng Kung University, Taiwan
- *Youth Forum* 3^{rd} *Award*, Taiwan Ocean Science Conference, 2019, Taipei, Taiwan
- *Poster* 2^{nd} *Award*, Taiwan Ocean Science Conference, Taipei, Taiwan
- *Best Student Award*, National Central University, 2019 Fall semester (60 students awarded per semester in the university)
- *Academic Award Scholarship*, Department of Earth Sciences, National Central University

EMPLOYMENT

Jan 2022 – Present	Graduate Student Researcher: (Appointment during quarters not assigned to teaching) *PI: Andrew Stewart and James McWilliams* Teaching Assistant: (Fall 2022, 2023, 2024, 2025, Class: AOS103) *PI: Andrew Stewart* Appointments are in Department of Atmospheric and Oceanic Sciences, UCLA
Sep 2020 – Jun 2021	Research Assistant, *COAST group PI: Zhi-Cheng Huang*, Graduate Institute of Hydrological and Oceanic Sciences, National Central University
Dec 2019 – Mar 2020	Research Assistant, *COAST group PI: Zhi-Cheng Huang*, National Central University
Jan 2016 – Feb 2016	Full-time Internship, *Sinotech Engineering Consultants, Ltd.*, Taipei, Taiwan

SEMINAR TALKS

Formal:	Institute of Oceanography, National Taiwan University, *"An idealized framework and global data approach to constrain oceanic mesoscale energy dissipation"*, January 2026
	Department of Atmospheric Science, National Central University, *"An idealized framework and global data approach to constrain oceanic mesoscale energy dissipation"*, January 2026
	Department of Ocean Science, The Hong Kong University of Science and Technology, *"Regimes of oceanic mesoscale energy dissipation at western boundaries"*, March 2024
Informal:	ODSL group, PI: Jinbo Wang, Department of Oceanography, Texas A&M University, *"Constraining Oceanic Mesoscale Energy Dissipation"*, July 2025
	Institute of Oceanography, National Taiwan University, *"Regimes of oceanic mesoscale energy dissipation at western boundaries"*, Mar 2024

TEACHING

The Physical Oceanography TA is a weekly discussion class in the quarter system at the University of California, Los Angeles. The Earth Hydrological Cycle TA is a weekly quiz TA sessions in the semester system at National Central University, Taiwan. The AOS Summer Lecture is a week of oceanic topic discussion for new incoming Ph.D. students. The Class Lecture is a 75-minute UCLA upper-division lecture. I designed and teached the UAV and Pix4D Image Processing class, which is a 1-credit lecture in the semester system at the National Central University.

Teaching Assistant:	Physical Oceanography (Upper-division)	Fall 2022, Fall 2023, Fall 2024, Fall 2025
	Earth Hydrological Cycle (Upper-division)	Spring 2018, Spring 2019
	AOS Summer Lecture	Summer 2022
Class Lecture:	Physical Oceanography (Upper-division)	Fall 2023 (Eddies and Turbulence), Fall 2024 and 2025 (Internal Waves)
Instructor:	UAV and Pix4D Image Processing (Undergraduate)	Fall 2018, Fall 2019, Fall 2020, Spring 2021

ACADEMIC SERVICE

Leadership activities:	*Chair of the Marine Center Graduate Student and Postdoctoral Network*, Marine Center, University of California, Los Angeles, Sep 2023 – present
Committee:	*270 Seminar Committee*, Department of Atmospheric and Oceanic Sciences, University of California, Los Angeles, Sep 2023 – present
Conference services:	*CalGFD Conference Organizing Team*, 2024, 2025
Public Outreach:	*Research Night Panel speaker*, Department of Atmospheric and Oceanic Sciences, University of California, Los Angeles, Oct 2023
	Rotating tank demonstration, Explore Your Universe Science Fair, UCLA, Nov 2023

MENTORSHIP

Research:	Aisha Mardini, *"Using Machine Learning and Satellite Measurement to Estimate Global Bottom Drag Dissipation"*, May 2025 – present
	Tanner Shinkle, *"Observing Surface Submesoscale Flows with Unmanned Aerial Drones"*, Oct 2023 – Jun 2024
Academic:	Yuzuna Kudo, Sep 2024 – present
	Elena Dworak, Sep 2023 – Jun 2024
	Athena Bamrick, Sep 2021 – Jun 2023

WORKSHOPS

1. *"NASA Ocean AI Workshop"*, Caltech, Pasadena, May 19^{th} – 21^{st} 2025

SELECTED CONFERENCE ABSTRACTS

11. *"Estimating global ocean bottom drag dissipation via Empirical Orthogonal Function analysis"*, Ocean Science Meeting, Glasgow, Scotland, Feb 23^{rd} – 27^{th} 2026
10. *"Estimating global ocean bottom drag dissipation via Empirical Orthogonal Function analysis"*, Climate Processing Team Annual Meeting, New York University (online presentation due to UCLA travel ban), Aug 13^{th} – 15^{th} 2025
9. *"Constraining Global Oceanic Mesoscale Energy Dissipation: The Role of the Ocean Bottom"*, UCLA Marine Center Annual Meeting, Jun 12^{th} 2025
8. *"Regimes of oceanic mesoscale energy dissipation at western boundaries"*, Climate Processing Team Annual Meeting, Brown University, Providence, RI, Aug 14^{th} – 16^{th} 2024
7. *"Regimes of oceanic mesoscale energy dissipation at western boundaries"*, Ocean Science Meeting, New Orleans, La, Aug 18^{th} – 23^{rd} 2024
6. *"Regimes of oceanic mesoscale energy dissipation at western boundaries"*, CalGFD 2023, Scripps, La Jolla, CA
5. *"Regimes of oceanic mesoscale energy dissipation at western boundaries"*, UCLA Marine Center Annual Meeting, May 22^{th} 2023
4. *"A UAV-RTK-Lidar system measurements of wave energy dissipation over a sandy beach and an algal-reef area"*, Coastal Engineering No. 36v, doi.org/10.9753/icce.v36v.waves.34, https://youtu.be/fBLbsBuK4AA, 2020
3. *"Understanding the variations of sand coverage on a reef system in the intertidal zone of Taoyuan coast using airborne imagery techniques"*, AGU Fall Meeting, 2019
2. *"A UAV-RTK-Lidar system measurements of wave energy dissipation over a sandy beach and an algal-reef area"*, EGU meeting, EGU2019-12158, 2019
1. *"A UAV-RTK-Lidar System for Wave and Tide Measurements in Coastal Zones"*, The 9th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering, National Cheng Kung University, Taiwan, 2018