YAO YU

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**RESEARCH KEYWORDS**

satellite radar altimetry; machine learning; small-scale ocean dynamics; seafloor; ocean mixing

**POSITION**

Schmidt AI in Science Postdoc Fellow, University of California, San Diego 2023 – 2025

**EDUCATION**

University of California, San Diego, Doctor of Philosophy in Earth Sciences 2018 – 2023

Wuhan University, China, Master of Engineering in Geodesy and Geomatics 2015 – 2018

Wuhan University, China, Bachelor of Engineering in Geodesy and Geomatics 2011 – 2015

Academia Sinica, Taiwan, Visiting Student 2016, 2017

**PUBLICATIONS**

*Peer-reviewed papers*

10. **Yu, Y.**, Sandwell, D. T., Dibarboure, G., Chen, C., & Wang, J. (2024). Accuracy and resolution of SWOT altimetry: Foundation seamounts. *Earth and Space Science*, https://doi.org/10.1029/2024EA003581

9. Gevorgian, J., Sandwell, D. T., **Yu, Y.**, Kim, S. S., & Wessel, P. (2023). Global distribution and morphology of small seamounts. *Earth and Space Science*, https://doi.org/10.1029/2022EA002331. [[pdf](https://drive.google.com/file/d/12oVzyZzpfLn9Kum7SeFLfXA7QH40HwJw/view?usp=share_link)]

8. **Yu, Y.**, Sandwell, D. T., & Gille, S. T. (2023). Seasonality of the Sub‐mesoscale to Mesoscale Sea Surface Variability from Multi‐Year Satellite Altimetry. *Journal of Geophysical Research: Oceans*, https://doi.org/10.1029/2022JC019486 [[pdf](https://drive.google.com/file/d/10DZhWeiJ-yEUqpUYi36yYzJoF97cEscx/view?usp=share_link)]

7. **Yu, Y**., Gille, S. T., & Sandwell, D. T. (2022). Global Mesoscale Ocean Variability from Multiyear Altimetry: An Analysis of the Influencing Factors, *Artificial Intelligence for the Earth Systems*, https://doi.org/10.1175/AIES-D-21-0008.1 [[pdf](https://drive.google.com/file/d/1HAcZIs9TPQKPr6MS1Uc7KEc0JJ-8Vk2H/view?usp=sharing)]

6. Sandwell, D. T., Goff, J. A., Gevorgian, J., Harper, H., Kim, S. S., **Yu**, Y., Tozer, B., Wessel, P., & Smith, W. H. (2022). Improved Bathymetric Prediction Using Geological Information: SYNBATH. *Earth and Space Science*, https://doi.org/10.1029/2021EA002069 [[pdf](https://drive.google.com/file/d/1DD7wQy9SCVUDRjQ5m0w7exERNaYRlWZQ/view?usp=sharing)].

5. **Yu**, **Y.**, Sandwell, D. T., Gille, S. T., & Villas Bôas, A.B. (2021). Assessment of ICESat-2 for the recovery of ocean topography*,*Geophysical Journal International, https://doi.org/10.1093/gji/ggab084 [[pdf](https://drive.google.com/file/d/1lrtFZXjIfW2zDfr4WPMsqZa0ugJ2FecF/view?usp=sharing)]

4. Chao, B. F., & **Yu, Y.** (2020). Variation of the Equatorial Moments of Inertia Associated with a 6-year Westward Rotary Motion in the Earth, *Earth and Planetary Science Letters*, https://doi.org/10.1016/j.epsl.2020.116316 [[pdf](https://drive.google.com/file/d/13B4h61VkUbJ44FzXjgToXwC6q4Il_Enn/view?usp=sharing)]

3. Chao, B. F., **Yu, Y.**, & Chung, C. H. (2020). Variation of Earth's Oblateness J2 on Interannual-to-Decadal Timescales, *Journal of Geophysical Research: Solid Earth*, https://doi.org/10.1029/2020JB019421 [[pdf](https://drive.google.com/file/d/1vObWP_5Q7tHMz63CeELB1sEAxLmGBRTC/view?usp=sharing)]

2. Tanaka, Y., **Yu, Y.**, & Chao, B. F. (2019). Gravity and geoid changes by the 2004 and 2012 Sumatra earthquakes from satellite gravimetry and ocean altimetry. *Terr. Atmos. Ocean. Sci*, doi:10.3319/TAO.2018.10.24.02 [[pdf](https://drive.google.com/file/d/1bP2WB5WqPS8T9m6AeaOst8Uh4A2DEfjJ/view?usp=sharing)]

1. **Yu, Y.**, Chao, B. F., García-García, D., & Luo, Z. (2018). Variations of the Argentine gyre observed in the GRACE time-variable gravity measurements and Ocean Altimetry, *Journal of Geophysical Research: Oceans*, https://doi.org/10.1029/2018JC014189 [[pdf](https://drive.google.com/file/d/1ukT1FaWl0Ubqj_mJ44jeov4_-g94ooGP/view?usp=sharing)]

*In progress*

2. **Yu, Y.**, Gille, S. T., & Sandwell, D. T. (*in prep*) Assessing Tidal Conversion over Uncharted Bathymetric Fabrics

1. **Yu, Y.**, Sandwell, D., Dibarboure, G. (*accepted by Science*) Abyssal Marine Tectonics from the SWOT Mission

**ACADEMIC HONORS**

Schmidt AI in Science Postdoc Fellowship, UCSD 2023-2025

H. William Menard Memorial Fellowship, UCSD 2023

Scripps Institution of Oceanography graduate fellowship, UCSD 2018

Frist Prize, Graduate Student Fellowship, Wuhan University 2016, 2017, 2018

National Scholarship, China 2014

Frist Prize, Undergraduate Student Fellowship, Wuhan University 2012, 2013, 2014, 2015

**FUNDING**

UCSD Earth Section Small Grants (recipient; $3290; for one-day workshop and monthly meetings) 2024

NASA SWOT Science Team (postdoc) 2024-2028

*Travel funds:*

MPOWIR Pattullo Conference 2023

Satellite Observations and Climate Models Summer School, JPL 2022

Spaceborne Earth Observations and Global Change Summer School, Shanghai Astronomical Observatory 2014

**TEACHING**

Teaching assistant of SIO 111 Ocean waves (undergraduate level) winter quarter, 2022

Guest lecturer of SIO 111 Ocean waves (undergraduate) winter quarter, 2023

Guest lecturer of SIO 135/236 Satellite Remote Sensing (undergraduate/graduate level) spring quarter, 2024

**MENTORING**

peer mentor for 2 graduate students 2020-2022

research mentor for 1 undergraduate student, 1 graduate student *now*

**PROFESSIONAL SERVICE**

**Journal reviewer:** GRL, IEEE TGRS, JGR ML, AGU Advances

**Proposal reviewer:** NASA early career FINESST (2024)

**Meeting convenor:** 2023 AGU fall meeting convener; 2024 Scripps SWOT Workshop organizer

AGU Geodesy Executive Committee early career representative 2023-*now*

AGU Geodesy Executive Committee student representative 2022-2023

**PRESENTATIONS**

Seminar at IGPP, Scripps Institution of Oceanography April 2024

Seminar at USTC March 2023

OSTST 2021, 2023

AGU fall meeting 2019, 2020, 2021, 2022, 2023

Ocean sciences meeting 2020, 2022

SWOT science team meeting 2022, 2024

Asia Ocean Geosciences Society 2017

**FIELD WORK**

GPS survey at Mexicali, Mexico March 8-9, 2020

R/V Sally Ride at Fieberling Seamount chains January 13-23, 2020

GPS survey at Ridgecrest, California July 12, November 10-11, 2019

GPS survey at Painted Canyon, California March 2-3, 2019

GPS survey at Palm desert, California November 12-13, 2018