

SHANTONG SUN

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RESEARCH DESCRIPTION

Interests: Large-scale ocean circulation, especially the global ocean overturning circulation and its interaction with the atmosphere and the cryosphere; Southern Ocean dynamics; Climate change

Methods: Numerical simulations using general circulation models (GCMs); development of idealized conceptual models

EDUCATION

Ph.D., Physical Oceanography Scripps Institution of Oceanography, UC San Diego Advisor: Ian Eisenman	2013-2019
M.S., Physical Oceanography Ocean University of China Advisor: Lixin Wu	2011-2013
B.S., Marine Science Ocean University of China	2007-2011

APPOINTMENTS

09/2019-present: Postdoctoral scholar, California Institute of Technology

09/2013-08/2019: Graduate Student Research Assistant, Scripps Institution of Oceanography, UC San Diego

PUBLICATIONS

Submitted

Wilson, E. A., A. F. Thompson, A. Stewart, S. Sun. Bottom-up control of subpolar gyres and the overturning circulation in the Southern Ocean. *submitted*.

S. Sun, A.F. Thompson, S.-P. Xie, and S.-M. Long, Indo-Pacific warming induced by a weakening of the Atlantic Meridional Overturning Circulation, *submitted*.

Peer-reviewed

13. Q. Quan, Z. Liu, S. Sun, Z. Cai, Y. Yang, G. Jin, Z. Li, and X.-S. Liang (2021). Influence of the Kuroshio Intrusion on Deep Flow Intraseasonal Variability in the Northern South China Sea. *J. Geophys. Res. Oceans*, e2021JC017429.
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Non-refereed

S. Sun (2019). Surface constraints on the global ocean overturning circulation: Southern Ocean vs North Atlantic. PhD thesis, Scripps Institution of Oceanography, UC San Diego, 216 pages.

SELECTED PRESENTATIONS

- (2015) AGU Fall Meeting: Influence of the Southern Ocean on the global deep ocean stratification (*talk*)
- (2017) Southern Ocean Workshop at NCAR: Does Southern Ocean surface forcing shape the global ocean overturning circulation? (*talk*)
- (2018) Ocean Science Meeting: Does Southern Ocean surface forcing shape the global ocean overturning circulation? (*poster*)
- (2019) 22nd AOFD: What sets the depth of the Atlantic Meridional Overturning Circulation? (*talk*)
- (2020) Ocean Science Meeting: The role of the Indo-Pacific Ocean in mediating the transient response of the Atlantic Meridional Overturning Circulation (*talk*)
- (2020) JPL/Caltech: Centennial changes in the Indonesian Throughflow connected to the Atlantic Meridional Overturning Circulation: a transient Conveyor Belt (*seminar*)
- (2020) DAMTP/Cambridge: The ocean's transient conveyor belt (*seminar*)
- (2020) AGU Fall Meeting: Connecting the Atlantic Meridional Overturning Circulation to the Indonesian Throughflow: a transient Conveyor Belt (*talk*)

TEACHING EXPERIENCE

- Fall, 2010 (OUC): Teaching assistant for *Internal Waves* (Instructor: Xu Chen)
- Fall, 2016 (SIO): Teaching assistant for *Introduction to Physical Oceanography* (Instructor: Lynne Talley)
- Fall, 2017 (SIO): Guest Lecture for *Numerical Modelling of the Climate System* (Instructor: Ian Eisenman)

- Spring, 2021 (Caltech): Guest Lecture for *Ocean Dynamics* (Instructor: Joern Callies & Andrew Thompson)

OTHER ACTIVITIES

- Educational outreach - Volunteer for Science Expo Day in San Diego (March, 2015)
- NASA Summer School on Satellite Observations and Climate Models (2019)
- Reviewer for *Journal of Physical Oceanography*, *Geophysical Research Letters*, *Communications Earth & Environment*, *Journal of Geophysical Research-Ocean*, and *Deep Sea Research I*