C. Spencer Jones (he/him pronouns)

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Research

Geophysical fluid dynamics

Interests

The Lagrangian meridional overturning circulation

Tracer transport by isopycnal and diapycnal mixing

EDUCATION

Scripps Institution of Oceanography, University of California, San Diego

PhD in Physical Oceanography. GPA: 4.0.

Dissertation title:

The global meridional overturning circulation in an idealized two-basin model

2011-2018

Oxford University

MPhys, Second Class Upper Division

2007-2011

RESEARCH EXPERIENCE Lamont Doherty Earth Observatory

Postdoctoral Research Fellow

June 2018-present

Supervisor: Professor Ryan Abernathey

Scripps Institution of Oceanography

Graduate Student July 2012 - May 2018

Supervisor: Professor Paola Cessi

Oxford University Research Assistant

July 2011

Supervisors: Professor David Marshall and Doctor David Munday

Oxford University Undergraduate Student

January - March 2011

Supervisors: Professor David Marshall and Doctor David Munday

AWARDS

Lamont Postdoctoral Fellowship

Two-year postdoctoral fellowship

June 2018 - present

Geophysical Fluid Dynamics Fellowship

Summer Program at Woods Hole Oceanographic Institution

June - August 2013

St Peter's College, Oxford

Scholarship for performance in the First Public Examination

June 2008

Publications

- **C. S. Jones** and R. P. Abernathey. Isopycnal mixing and deep ocean ventilation in an idealized-geometry two-basin model *in prep*.
- C. S. Jones and P. Cessi. Components of salt transport in the upper branch of the meridional overturning circulation (2018). *J.Phys. Oceanogr.*, 48, 2445–2456 doi: 10.1175/JPO-D-18-0005.1
- C. S. Jones and P. Cessi. Size matters: another reason why the Atlantic is saltier than the Pacific (2017), *J.Phys. Oceanogr.*, 47, 2843–2859 doi: 10.1175/JPO-D-17-0075.1
- P. Cessi and C. S. Jones. Warm-route versus cold-route interbasin exchange in the meridional overturning circulation (2017), *J.Phys. Oceanogr.*, 47,1981–1997 doi: 10.1175/JPO-D-16-0249.1
- C. S. Jones and P. Cessi. Interbasin transport of the meridional overturning circulation (2016). J. Phys. Oceanogr., 46, 1157–1169, doi: 10.1175/JPO-D-15-0197.1
- C. S. Jones, C. Cenedese, E. P. Chassignet, P. F. Linden and B. R. Sutherland. Gravity current propagation up a valley (2015), J. Fluid Mech., 762, 417–434, doi:10.1017/jfm.2014.627

Talks

The effects of basin geometry on transport, stratification and salinity in the meridional overturning circulation. Physical Oceanography Dissertation Symposium (PODS), October 2018.

The global meridional overturning circulation in an idealized two-basin model. Yale University, September 2018.

Size matters: another reason why the Atlantic is saltier than the Pacific. Conference on Atmospheric and Oceanic Fluid Dynamics 2017.

Posters

Size matters: another reason why the Atlantic is saltier than the Pacific. Ocean Sciences Meeting 2018.

Interbasin exchange in the meridional overturning circulation: basin width and the warm route versus the cold route. AMOC Science Team Meeting 2017.

Interbasin transport of the meridional overturning circulation. Ocean Sciences Meeting 2016.

Size Matters: Why is there overturning in the Atlantic but not in the Pacific? Conference on Atmospheric and Oceanic Fluid Dynamics 2015.

Gravity current propagation up a valley. Ocean Sciences Meeting 2014.

SERVICE & OUTREACH

Student Member, Atmospheric and Oceanic Fluid Dynamics Committee. American Meteorological Society [February 2014 - February 2018]

Mentor, Graduate Peer Mentoring Program, Scripps Institution of Oceanography [October 2013 - June 2105]

Volunteer, National Ocean Sciences Bowl Regional Competition. Scripps Institution of Oceanography, 2013

Reviewer: Journal of Fluid Mechanics, Journal of Physical Oceanography, Journal of Climate, Geophysical Research Letters

TEACHING EXPERIENCE Columbia University Guest Lecturer

GU4925 Principles Of Physical Oceanography

I prepared two lectures about analytical models of the circulation and stratification of the global ocean. I gave these lectures to a mixture of undergraduate and postgraduate students and created notes to appear online.

Fall 2018

UCSD

Teaching Assistant

ESYS 102, The Solid and Fluid Earth

I taught two sections of thirty students every week, graded homework and proctored exams. This course covered a wide variety of Earth systems topics at an upper undergraduate level. Winter 2013

SIO 30, The Oceans

I taught two sections of thirty students every week. This course covered physical, chemical and biological oceanography at a lower undergraduate level. Fall 2012

TECHNICAL SKILLS Scientific computer programming in MATLAB, python and FORTRAN. Familiar with the MIT general circulation model (including the adjoint model) and the HYbrid Coordinate Ocean Model (HYCOM). Proficient with LaTeX, UNIX, Microsoft Office and OpenOffice.

SEA-GOING EXPERIENCE Tidal Mixing in Straits Experiment. R/V Revelle [May 2014]