Xujing Jia Davis
Department of Physical Oceanography
Woods Hole Oceanographic Institution
Woods Hole, Massachusetts 02543
Tel: +1 508 289 2404, Fax: +1 508 457 2181，Email: xdavis@whoi.edu

Curriculum Vitae

RESEARCH INTERESTS

My primary interest centers on the ocean's role in climate, climate variability and prediction from synoptic to decadal time scales: atmosphere-ocean interaction, basin scale oceanic and atmospheric circulation, mode water formation as well as biological-physical interdisciplinary dynamics. I approach these questions with analysis of *in situ* and satellite observations, GCM simulations and idealized model experiments.

EDUCATION

2008, Ph.D. Physical Oceanography, Graduate School of Oceanography, Univ. of Rhode Island (URI)
Dissertation Title: *Numerical and theoretical investigations of North Pacific Subtropical Mode Water with implications to Pacific climate variability*
(Advisors: Lewis M. Rothstein, William K. Dewar)

2002, M.S. Physical Oceanography, Dept. of Oceanography, Florida State Univ. (FSU)
(Advisor: James J. O'Brien)

2000, M.S. Marine Meteorology, College of Physical and Environmental Oceanography, Ocean Univ. of Qingdao (OUQD), China.
(Advisors: Qinyu Liu, Jilin Sun)

1997, B.S. Marine Meteorology, OUQD, China.

EMPLOYMENT HISTORY

2013-Current, Research Associate III, WHOI
2009-2013, Postdoctoral Investigator, WHOI
2002-2008, Research Assistant, URI
2001-2002, Research Assistant, FSU
1997-2000, Research Assistant, OUQD

PEER-REVIEWED PUBLICATIONS

Published or submitted

Xujing Jia Davis, Terrance M. Joyce, Young-Oh Kwon, 2014. Prediction of silver hake distribution on the Northeast U.S. shelf based on Gulf Stream path index. *Marine Ecology Progress Series (in review).*

Xujing Jia Davis, Robert A. Weller, Sebastien Bigorre and Albert J. Plueddemann, 2013. Local oceanic response to atmospheric forcing in the Gulf Stream region. *Deep Sea Research II*, Vol. 91, pp. 71-83.

Xujing Jia Davis, Fiammetta Straneo, Young-Oh Kwon, Kathryn A. Kelly, John M. Toole, 2013. Evolution and formation of North Atlantic Eighteen Degree Water in the Sargasso Sea from moored data. *Deep Sea Research II*, Vol. 91, pp. 11-24.

Xujing Jia Davis, Lewis M. Rothstein, William K. Dewar, Dimitris Menemenlis, 2011. Numerical investigations of seasonal and interannual variability of North Pacific Subtropical Mode Water and its implications to Pacific climate variability. *Journal of Climate*, Vol. 24, No. 11, pp. 2648-2665.

Steve. L. Morey, Mark. A. Bourassa, **Xujing Jia Davis**, James J. O'Brien, Jorge Zavala-Hidalgo, 2005. Remotely sensed winds for episodic forcing of ocean models. *Journal of Geophysical Research*, 110, C10024, doi:10.1029/2004JC002338.

Qinyu Liu, Jilin Sun, **Xujing Jia**, Xiuzhi Zhang, 2003. Dynamical features of the heat flux and the upper mixed layer in the South China Sea during summer monsoon onset in 1998. *ACTA Meteorologica Sinica*, Vol. 17 Suppl. (In Chinese with English Abstract)

Qinyu Liu, Jilin Sun, **Xujing Jia**, 2002. Numerical simulations and experiments of the upper mixed layer in the northern South China Sea in Spring. *Chinese Journal of Oceanology and Limnology*, Vol. 33, no. 5, pp. 526-535. (In Chinese with English Abstract)

Qinyu Liu, Jilin Sun, **Xujing Jia**, 2001. Numerical simulations of the upper mixed layer in the south of the South China Sea in Spring. *Journal of Ocean University of Qingdao*, Vol.31, No.2. (In Chinese with English Abstract)

Xujing Jia, Qinyu Liu, Jilin Sun, 2001. A comparison between two different definitions of the mixed layer and the thermocline in the South China Sea. *Transactions of Oceanology and Limnology*, No.1, 2001, P1-7. (In Chinese with English Abstract)

Qinyu Liu, **Xujing Jia**, Jilin Sun, Xiuzhi Zhang, 2000. Dynamical features and the formation mechanism of the mixed layer in the South China Sea before and after 1998 summer monsoon onset. *Climatic and Environmental Research*, Vol. 5, No. 4. (In Chinese with English Abstract)

Haijun Yang, Qinyu Liu, **Xujing Jia**, 1999. On the upper oceanic heat budget in the South China Sea: annual cycle. *Advances in Atmospheric Science*, 16, No. 4, 619-629.

In preparation

Alison M. Macdonald, Sabine Mecking, **Xujing Jia Davis**, Samar P. Khatiwala, Paula C. Pardo, Marcos Vázquez-Rodríguez. Circulation of anthropogenic carbon in the Pacific Ocean. *In preparation.*

Xujing Jia Davis, William K. Dewar, Lewis M. Rothstein, Dimitris Menemenlis. Theoretical investigations of Subtropical Mode Water in a planetary geostrophic ocean model. *In preparation*.

THESES AND REPORTS

Lund, John M., **Xujing Jia Davis**, Andrée L. Ramsey, Fiammetta Straneo, Dan Torres, Jamie Palter, Stefan Gary, Dave Fratantoni, 2013. CLIMODE Subsurface Mooring Report: November 2005 - November 2007. *Woods Hole Oceanographic Institution Technical Report*. WHOI-2013-03, 100pp.

Xujing Jia Davis, 2008. Numerical and theoretical investigations of North Pacific Subtropical Mode Water with implications to Pacific climate variability. *Ph.D. Dissertation*, University of Rhode Island.

Xujing Jia Davis, 2002. Evaluation of wind products for forcing coastal ocean models. *Master Thesis*, Florida State University.

Steven L. Morey, Mark A. Bourassa, **Xujing Jia**, James J. O'Brien, Jorge Zavala-Hidalgo, 2002. Impacts of satellite scatterometer–derived wind forcing on the West Florida Shelf ocean circulation. *Research Activities in Atmospheric and Ocean Modeling*, CAS/JSC Working Group on Numerical Experimentation.

Qinyu Liu, Jilin Sun, **Xujing Jia**, 2001. Dynamic features of the heat flux and the upper mixed layer in the South China Sea during 1998 summer monsoon onset. *Report of WCRP/SCOR Workshop on Intercomparison and Validation of Ocean-Atmosphere Flux Fields*, Bolger Center, Potomac, MD.

Xujing Jia, 2000. The dynamical features and the formation mechanism of the mixed layer of the upper ocean in the South China Sea during the 1998 monsoon. *Master Thesis*, Ocean University of Qingdao.

PRESENTATIONS AND CONFERENCE PROCEEDINGS

Xujing Jia Davis, Terrance M. Joyce, Young-Oh Kwon, September 2014. Prediction of silver hake distribution on the Northeast U.S. shelf based on Gulf Stream path index. *The International Council for the Exploration of the Sea (ICES) Annual Science Conference*, A Coruña, Spain.

Alison M. Macdonald, Lynne D. Talley, Julie L. McClean, **Xujing Jia Davis**, February 2014. Towards understanding the role of northeast monsoon circulation in the Indian Ocean carbon budget. *Eos. Trans. AGU, Ocean Sciences Meeting Supplement*, Honolulu, HI. (Poster)

Alison Macdonald, **Xujing Jia Davis**, November 2012. The relationship between heat and carbon transports in Pacific. *CLIVAR Global Synthesis and Observations Panel Ocean Synthesis and Air-Sea flux evaluation Workshop*, Woods Hole Oceanographic Institution, Woods Hole, MA. (Poster)

Xujing Jia Davis, Robert A. Weller, Sebastien Bigorre, Albert J. Plueddemann, July 2012. Local oceanic response to atmospheric forcing in the Gulf Stream region. *CLIMODE PI Meeting*, Woods Hole Oceanographic Institution, Woods Hole, MA. (Poster)

Xujing Jia Davis, June 2012. Local oceanic response to atmospheric forcing in the Gulf Stream region. *Lamont-Doherty Earth Observatory of Columbia University*, Palisades, NY. (Talk, Invited)

Xujing Jia Davis, May 2012. Local oceanic response to atmospheric forcing in the Gulf Stream region. *GFDL*, Princeton, NJ. (Talk, Invited)

Xujing Jia Davis, Robert A. Weller, Sebastien Bigorre, Albert J. Plueddemann, 2012. Local oceanic thermal response to atmospheric forcing: the Gulf Stream region. *Eos. Trans. AGU, Ocean Sciences Meeting Supplement*, Salt Lake City , UT. (Talk)

Xujing Jia Davis, Robert A. Weller, Sebastien Bigorre, Albert J. Plueddemann, Fiammetta Straneo, Young-Oh Kwon, Kathryn A. Kelly, John M. Toole, 2011. Eighteen Degree Water formation from moored data. *CLIMODE PI Meeting*, Woods Hole Oceanographic Institution, Woods Hole, MA. (Talk)

Xujing Jia Davis, Young-Oh Kwon, 2010. The fate of Eighteen Degree Water: a preliminary look from an OGCM simulation. *CLIMODE PI Meeting*, Woods Hole Oceanographic Institution, Woods Hole, MA. (Talk)

Xujing Jia Davis, Fiammetta Straneo, Kathryn A. Kelly, John M. Toole, 2010. Evolution of Eighteen Degree Water and the role of lateral oceanic fluxes in the Eighteen Degree Water formation region. *CLIMODE PI Meeting*, Woods Hole Oceanographic Institution, Woods Hole, MA.(Talk)

Xujing Jia Davis, 2010. The formation and evolution of Subtropical Mode Water and its role in climate variability. *Pattullo Conference, Mentoring Physical Oceanography Women to Increase Retention*, Charleston, SC. (Talk)

Xujing Jia Davis, Fiammetta Straneo, 2010. The evolution of North Atlantic Eighteen Degree Water and the role of lateral oceanic fluxes in the Eighteen Degree Water formation region. *Eos. Trans. AGU, Ocean Sciences Meeting Supplement*, Portland ,OR. (Poster)

Xujing Jia Davis, 2009. One mode water, two oceans, three methods, multiple scales. *WHOI Postdoctoral Symposium*, The Jonsson Center of National Academies, Woods Hole, MA. (Talk)

Xujing Jia Davis, Lewis M. Rothstein, William K. Dewar, Dimitris Menemenlis, 2009. Variability of Subtropical Mode Water in the North Pacific: numerical investigations. *Physical Oceanography Seminar*, Woods Hole Oceanographic Institution. (Talk)

Xujing Jia Davis, Lewis M. Rothstein, William K. Dewar, Dimitris Menemenlis, 2008. Numerical and theoretical investigations of North Pacific Subtropical Mode Water with implications to Pacific climate variability. *Eos. Trans. AGU, Fall Meeting*, San Fransico, CA. (Poster)

Xujing Jia Davis, Lewis M. Rothstein, William K. Dewar, Dimitris Menemenlis, 2008. Numerical and theoretical investigations of North Pacific Subtropical Mode Water. *ECCO2 Meeting*. MIT, Cambridge, MA. (Talk)

Xujing Jia Davis, Lewis M. Rothstein, 2006. A theoretical and numerical investigation of the role of Subtropical Mode Water in Pacific Decadal Variability. *Eos. Trans. AGU, 87(36), Ocean Sciences Meeting Supplement, Abstract OS45G-21*, Honolulu, HI. (Poster)

Morey, Steve L., Mark A. Bourassa, **Xujing Jia**, James J. O'Brien, Jorge Zavala-Hidalgo, 2002. Numerical simulations of the Gulf of Mexico forced by QuikSCAT–derived winds. *Eos. Trans. AGU, 83(4), Ocean Sciences Meeting Supplement, Abstract OS32D-155*, Honolulu, HI. (Poster)

Morey, Steven L., Mark A. Bourassa, **Xujing Jia**, James J. O'Brien, William W. Shroeder, Jorge Zavala-Hidalgo, 2002. Modeling the oceanic response to episodic wind forcing over the West Florida Shelf. *Proceedings of the PECS 2002 Conference on Physics of Estuaries and Coastal Seas*. Hamburg, Germany. (Poster)

Qinyu Liu, Jilin Sun, and **Xujing Jia**, 2001. Dynamic features and formation mechanism of the upper mixed layer in the South China Sea during 1998 summer monsoon Onset. *11th Conference on Interaction of the Sea and Atmosphere of American Meteorological Society*, San Diego, CA. (Poster)

Xujing Jia, Haijun Yang, Qinyu Liu, 1998. On the upper oceanic heat budget in the South China Sea: annual cycle. *5th Conference on Atmospheric Science for Young Scientists from Taiwan and Mainland China*, Weihai, China. (Talk)

PROPOSALS

"Collaborative Research: Developing a deep Profiling float sampling strategy through an investigation of MOC-related processes in the South Atlantic", **National Science Foundation**, September 2014 - September 2017, **Xujing Jia Davis**, Alison Macdonald and Shenfu Dong, Co-Investigators, $ 622,563. (*Pending*)

"Can changes in silver hake be related to and forecast by changes in the Gulf Stream path?", **The Ocean and Climate Change Institute & Ocean Life Institute of WHOI**, September 2010 - December 2013, Terrence M. Joyce, **Xujing Jia Davis** and Young-Oh Kwon, Co-Awardees, $ 74,478. (*Funded*)

CRUISE EXPERIENCE

Participating Researcher, URI, R/V Endeavor, Comprehensive analysis of zooplankton ecology in Georges Bank (2008)

Participating Researcher, OUQD, R/V Dongfanghong, Air-sea survey of the Jiaozhou Gulf in the Yellow Sea (1994, 1998)

TEACHING EXPERIENCE

Informal Mentor of MIT-WHOI Joint Students, WHOI Postdoc and MIT-WHOI Joint Student Pair Mentoring Program (2011-2012)
Participant of the Teaching Workshop from MIT Teaching and Learning Center, WHOI (2010)
Math Instructor for High School Students, Qingdao, Shandong Province, China (1994-1996)
English Instructor as a second language for High School Students, Qingdao, Shandong Province, China (1994-1996)
English Instructor as a second language for Secondary School Students, Qinggang County, Heilongjiang Province, China (1993)

HONORS&AWARDS

Travel Award to attend the summer school *Delineating the Issues of Climate Change and Impacts to Marine Ecosystems: Bridging the Gap Between Research, Assessment, Policy and Management*, Integrated Marine Biogeochemistry and Ecosystem Research (IMBER) (2014)
Outstanding Graduate Student Award, Ocean University of Qingdao (1998, 1999)
Graduating Student Excellence Honor, Ocean University of Qingdao (1997)
Distinguished Student Leader Honor, Ocean University of Qingdao (1996)
Excellent Student Award, Ocean University of Qingdao (1996)

PROFESSIONAL REVIEWS

Journal of Climate
Deep Sea Research
Geophysical Research Letters
Chinese Journal of Oceanology and Limnology

OTHER PROFESSIONAL ACTIVITIES

Participant in Responsible Conduct in Research Workshop at WHOI, July 8th, 2011
Participant in MPOWIR (Mentoring Physical Oceanography Women to Increase their Retention, Pattullo Conference, May 23rd-26th, 2010
President of Graduate Student Union for the College of Physical and Environmental Oceanography of OUQD (1998-1999)
Vice Secretary-General of Graduate Student Union of OUQD (1997-1998)
News Reporter for the Ocean University of Qingdao News (1995-1996)
Class President of 1997 Marine Meteorology (1995-1997)
President of Female Student Union for the College of Physical and Environmental Oceanography of OUQD (1993-1996)

PROFESSIONAL AFFILIATIONS

American Geophysical Union
American Meteorological Society
American Physical Society