Stan Swierczek

Contact Information	stan.swierczek.ctr@nrlssc.navy.mil
Citizenship	US

Experience

ASEE Postdoctoral Fellow
US Naval Research Laboratory, Stennis Space Center, MS — 2021–present

Research Interests

Ocean/Earth System Modeling, Numerical Analysis, Data Assimilation, Mathematical Modeling, Model Validation

Education

University of Arizona
Ph.D. Applied Mathematics — 2021

University of Arizona
M.S. Applied Mathematics — 2018

Washington State University
M.S. Mathematics — 2016

University of Scranton
B.S. Mathematics — 2007

Skills

MATLAB, Python, MITgcm, Globus, Linux, git, LaTeX

Research

Investigating predictability of DIC and SST in the Argentine Basin through wind stress perturbation experiments. — 2020–2021
Advisors: J. Russell, Department of Geosciences, University of Arizona.
M. Mazloff, Climate, Atmospheric Science & Physical Oceanography, Scripps Institution of Oceanography.

Effect of resolution on heat and carbon transports in a regional ocean circulation model for the Argentine Basin. — 2018–2020
Advisors: J. Russell, Department of Geosciences, University of Arizona.
M. Mazloff, Climate, Atmospheric Science & Physical Oceanography, Scripps Institution of Oceanography.
M. Morzfeld, Geophysics Scripps Institution of Oceanography.

Numerical inversion of Laplace transform. — 2017–2018
Advisor: M. Brio, Department of Mathematics, University of Arizona.

Inverse source problem for the wave equation in thermo-acoustic tomography. — 2016–2017
Advisor: L. Kunyansky, Department of Mathematics, University of Arizona.

Graduate Coursework

Earth System Modeling, Climate Dynamics, Fluid Mechanics,
Data Assimilation, Numerical Analysis, Numerical Analysis of PDE,
Methods of Applied Mathematics, Finite Elements, Time Series Analysis

Workshops

ECCO Summer School 2019
Consortium for Estimating the Circulation
& Climate of the Ocean
University of Washington

Math to Industry Boot Camp 2016
Institute for Mathematics and its Applications
University of Minnesota

Publications

Swierczek, S., Mazloff, M.R., & Russell, J.L. (2021). Investigating predictability of DIC and SST in the Argentine Basin through wind stress perturbation experiments. *Geophysical Research Letters*, 48, e2021GL095504. `https://doi.org/10.1029/2021GL095504`

Swierczek, S., Mazloff, M.R., Morzfeld, M., & Russell, J.L. (2021). The effect of resolution on vertical heat and carbon transports in a regional ocean circulation model of the Argentine Basin. *Journal of Geophysical Research: Oceans, 126*(7), e2021JC017235. `https://doi.org/10.1029/2021JC017235`

Talks

Investigating predictability of DIC and SST in the Argentine Basin through wind stress perturbation experiments
SOCCOM Modeling Telecon — July 2021

The effect of resolution on vertical heat and carbon transports in a regional ocean circulation model of the Argentine Basin
AGU Fall Meeting 2020 — December 2020
Comer Climate Conference 2020 — October 2020
SOCCOM Modeling Telecon — May 2020
AGU Ocean Sciences Meeting 2020 — February 2020

Assimilating float and mooring data to forecast carbon and heat fluxes in the Argentine Basin
SOCCOM Southern Ocean Meeting, Scripps Institution of Oceanography — March 2019

Error in Weeks' method for the numerical inverse Laplace transform
Research Tutorial Group Seminar, University of Arizona — December 2017

Seagoing Experience

Assistant Deck Operations, R/V Sikuliaq October 2019
OOI Coastal Endurance Mooring Array Fall 2019 Deployment
Washington/Oregon Coast

Teaching Experience

Teaching Assistant/Instructor
University of Arizona 2016–2018
Washington State University 2014–2016

Other Experience

Blasting Technician/Equipment Operator/ Mine Laborer 2005–2009, 2011–2012
Maurer & Scott, Tamaqua, PA & WESCO, Rillito, AZ

Honors and Awards	Excellence in Teaching by a Graduate Student Award Washington State University College of Arts and Sciences	2016
Professional Memberships	American Geophysical Union Society for Industrial and Applied Mathematics American Mathematical Society	