

Curriculum Vitae

December 14, 2019

Education

PhD in Earth, Environmental and Planetary Sciences

Advisor: Prof. Baylor Fox-Kemper

2015-Expected 2020

Brown University

B.A. in Mathematics

Advisor: Prof. Lidia Filus

2008-2014

Northeastern Illinois University

B.A. in Earth Science

Advisor: Prof. Ken Voglesonger

2008-2014

Northeastern Illinois University

Peer-Reviewed Publications

Pearson, J., Fox-Kemper, B., Pearson, B., Chang, H., Haus, B., Horstmann, J., Huntley, H., Kirwan, D. A., Jr., Poje, A., Submitted to JGR: Biases in structure functions from observations of submesoscale flows

Pearson, J., Fox-Kemper, Sane, A., In Prep: Blended second and third order structure function laws for passive-reactive tracers in geophysical flows

Pearson, B., Pearson, J., Fox-Kemper, B., In Prep: Structure Functions in Quasigeostrophic Turbulence

Pearson, B., Pearson, J., Fox-Kemper, B., In Revision in PRF: Relation between structure functions and cascade rates in anisotropic 2D turbulence

Chang, H., Huntley, H., Kirwan, D., Jr., Carlson, D., Mensa, J., Mehta, S., Novelli, G., Ozgokomen, T., Fox-Kemper, B., Pearson, B., Pearson, J., Harcourt,

R. Accepted in JPO: Small-scale dispersion observations in the presence of Langmuir circulation. *J. Phys. Oceanogr.* [PDF, DOI]

Pearson, J., Fox-Kemper, B., Barkan, R., Choi, J., Bracco, A., & McWilliams, J., 2019: Impacts of convergence on structure functions from surface drifters in the Gulf of Mexico. *J. Phys. Oceanogr.*, 49, 675–690, [PDF, DOI]

Xia, C., Cochrane, C., DeGuire, J., Fan, G., Holmes, E., McGuirl, M., Murphy, P., Palmer, J., Carter, P., Slivinski, L., & Sandstede, B., 2017: Assimilating Eulerian and Lagrangian data in traffic-flow models. *Physica D: Nonlinear Phenomena*, 346, 59-72 [PDF, DOI]

Professional & Teaching Experience

Graduate Research Assistant

Advisor: Prof. Baylor Fox-Kemper

Statistical methods paired with models, observations, and theory
to isolate biases in quasi-Lagrangian observation platforms and
reactive-tracer fields in the presence of turbulence

Fall 2015-Present

Brown, University

Instructor for Summer @ Brown

Studying the Ocean from Blackboard to the Bay

Summer 2020

Brown University

Course Designer and Co-instructor for Summer @ Brown

Studying the Ocean from Blackboard to Drones

Summer 2018 & 2019

Brown University

Graduate Teaching Assistant

Intro. to Oceanography under Prof. Steve Clemens

Spring 2019

Brown University

Graduate Teaching Assistant

Global Climate & Weather under Prof. Amanda Lynch

Fall 2017

Brown University

Undergraduate Researcher

Advisor: Prof. Björn Sandstede, Division of Applied Mathematics

Analysis of data assimilation and parameter estimation schemes

applied to traffic models

Summer 2014

Brown University

Undergraduate Researcher

Advisor: Prof. Alkes Price, Department of Epidemiology

Statistical methods to infer consistency across populations of genetic variants

associated with type-II diabetes

Summer 2013

Harvard University

Awards & Honors

Funding

Brown Fellow, Brown University

NSF MaPs Scholar, Northeastern Illinois University

First Sergeant Council Scholarship, ILARNG

2015-2016

2012-2014

2011

Honors

Tse Cheuk Ng Tai Innovations in Fluids and Health 2019 Award, Tse Cheuk Ng
Tai Innovation Fund

GoMRI Scholar, Gulf of Mexico Research Initiative [Article]

Deans List, Northeastern Illinois University

Women in Mathematics, Northeastern Illinois University

Army Achievement Medal, ILARNG

Army Achievement Medal, ILARNG

Command Sergeant Major's Award, ILARNG

National Service Award, ILARNG

07/26/2019

2018

2008-2014

2013

2011

2011

2009

2006

Travel Grants

Fluids and Health 2019 Junior Researcher Fellowship

Brown University Graduate School Conference Travel Grant

Brown University Graduate School International Travel Grant

National Institute for Mathematical and Biological Synthesis Travel Grant

Society for Advancement of Chicanos and Native Americans in Science Travel Grant

2019

2019

2019

2013

2012

Skills & Training

Computer Languages: Matlab, Python, R, Java and LATEX

2008-Present

Consortium for Advanced Research on Transport of Hydrocarbon in the Environment III

2 weeks launching driftcards in the Gulf of Mexico shelf area and optimizing plate detection algorithms.

Spring 2017

Grand Isle, LA

Community Earth System Model (CESM) Tutorial 2019

1 week of lecture and hands on activities to learn to operate CESM.

08/05-08/09 2019

NCAR, CO

Cornell Satellite Remote Sensing Training Program
 2 week summer course on remote sensing with a focus on ocean color.
 06/03-06/14 2019
 Ithaca, NY
 American Institute of Biological Sciences & RI NSF EPSCoR/RI C-AIM
 Enabling Interdisciplinary and Team Science Workshop
 Feb 2019
 Kingston, RI
 The Harriet W. Sheridan Center for Teaching and Learning
 Certificate I: Reflective Teaching
 Fall 2018
 Providence, RI
 GODAE Oceanview International School
 New frontiers in operational oceanography
 Fall 2017
 Mallorca, Spain
 Northeastern Illinois University Field School
 2 weeks producing detailed geologic maps, stereonet, and reports on geomorphological
 and glacial features of a syncline area
 Summer 2014
 Baraboo, WI
 Service & Outreach
 Contributions
 Big Bang Science Fair Demonstrator, Waterfire in Providence, RI
 Career Day Geosciences Speaker, Lincoln Middle School
 GradCon Coordinator, Brown University
 Elementary School Science Instructor, Vartan Gregorian Elementary
 GRE Math Preparation Course Instructor, Northeastern Illinois University
 EMERGE Peer Leader, Northeastern Illinois University
 Mathematics Enrichment Workshop Program Peer Leader, Northeastern Illinois University

CLS Coordinator and Instructor, ILARNG

Sept 2019

Apr 2019

Aug 2018

2015-2016

Aug 2015

Jul-Aug 2015

2010-2012

2009-2011

Reviews

Reviewer, Ocean Science

Reviewer, Journal of Physical Oceanography

Reviewer, Journal of Fluid Mechanics

Expert Reviewer, Intergovernmental Panel on Climate Change

2019-Present

2019-Present

2018-Present

2018-2019

Departmental Service

International Graduate Student Mentor, Brown University

First Year Graduate Student Mentor, Brown University

Geoclub Treasurer, Brown University

2017-Present

2017-Present

2016-2017

Invited Presentations

Xia, C., Cochrane, C., DeGuire, J., Fan, G., Holmes, E., McGuirl, M., Murphy, Palmer, J., P., Carter, P., Slivinski, L., & Sandstede, B., 2015: Microscopic and macroscopic traffic modeling utilizing data assimilation. The 5th Workshop in Statistical & Mathematical Modeling. Invited Oral.

Palmer, J., Santana, L., Anderson, R., Price, A., 2013: Consistency across ancestries of genetic associations of type-II diabetes. MaPS Scholars Fall Meeting. Invited Oral.

Conference Contributions

Ben-Horin, T., Sane, A., Pearson, J., Fox-Kemper, B., 2019: Pathogen Dispersal in Narragansett Bay, Fluids and Health. Oral. [PPT]

Pearson, J., Fox-Kemper, B., Huntley, H., Chang, H., Kirwan, D., Jr., Pearson, B., 2019: Systematic Differences Between Eulerian and Surface Drifter Statistics in the Gulf of Mexico, AOFD, abstract 358490. Poster. [PDF]

Pearson, J., Fox-Kemper, B., Huntley, H., Chang, H., Kirwan, D., Jr., Pearson, B., 2019: Do surface drifters accurately represent Eulerian turbulence statistics?, LAPCOD. Oral. [PDF]

Pearson, J., Fox-Kemper, B., Huntley, H., Chang, H., Kirwan, D., Jr., Pearson, B., 2019: Do surface drifters accurately capture turbulent mixing in the Gulf of Mexico?, Earth Itself 2019. Poster. [PDF]

Pearson, J., Fox-Kemper, B., Huntley, H., Chang, H., Kirwan, D., Jr., Pearson, B., 2019: Do surface drifters accurately capture turbulent mixing in the Gulf of Mexico?, RI C-AIM Research Symposium 2019. Poster. [PDF]

Pearson, J., Fox-Kemper, B., Barkan, R., Choi, J., Bracco, A., & McWilliams, J., 2019: Impacts of convergence zones on Lagrangian structure function statistics in the Gulf of Mexico, CLIVAR. Oral. [PDF]

Pearson, J., Fox-Kemper, B., Barkan, R., Choi, J., Bracco, A., & McWilliams, J., 2018: Impacts of convergence zones on Lagrangian structure function statistics in the Gulf of Mexico, GRC. Poster. [PDF]

Pearson, J., Fox-Kemper, B., Barkan, R., Choi, J., Bracco, A., & McWilliams, J., 2018: Impacts of Convergence Zones on Lagrangian Structure Function Statistics in the Gulf of Mexico. KITP, Poster. [PDF]

Pearson, J., Fox-Kemper, B., Barkan, R., Choi, J., Bracco, A., & McWilliams, J., 2018: Impacts of convergence zones on Lagrangian structure function statistics in the Gulf of Mexico, Waters Edge. Poster. [PDF]

Pearson, J., Fox-Kemper, B., Barkan, R., Choi, J., Bracco, A., & McWilliams, J., 2018: Impacts of Convergence Zones on Lagrangian Structure Function Statistics in the Gulf of Mexico. OSM, abstract PS33A-01. Poster. [PDF]

Pearson, J., Fox-Kemper, B., Barkan, R., Choi, J., Bracco, A., & McWilliams, J., 2017: Evaluation of Lagrangian Structure Function Statistics in the Gulf of Mexico. AOFD. Oral. [PDF, Recording]

Pearson, J., Fox-Kemper, B., Barkan, R., Choi, J., Bracco, A., & McWilliams, J., 2017: Impacts of Convergence Zones on Lagrangian Structure Function Statistics in the Gulf of Mexico. GODAE International School. Poster. [PDF]

Pearson, J., Fox-Kemper, B., Bodner, A., 2016: Preparing for Model-Data Comparison: Structure Functions and Frontogenesis. CARTHE II All Hands Meeting. Oral. [PDF]

Pearson, J., Fox-Kemper, B., Barkan, R., Choi, J., Bracco, A., & McWilliams, J., 2016: Structure Function Statistics to Detect Submesoscale Cascades. OSM, abstract PO34C-3066. Poster. [PDF]

Palmer, J., Santana, L., Anderson, R., Price, A., 2013: Consistency across ancestries of genetic associations of type-II diabetes. Harvard Summer Research Symposium. Oral.

Professional Memberships

American Meteorological Society

American Geophysical Union

Graduate Women in Science & Engineering

Association for the Sciences of Limnology and Oceanography

2018-Present

2018-Present

2015-Present

2015-Present