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## Education



PhD in Earth, Environmental and Planetary Sciences

Advisor: Prof. Baylor Fox-Kemper

2015-Expected 2020

*Brown University*



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B.A. in Mathematics

Advisor: Prof. Lidia Filus

2008-2014

*Northeastern Illinois University*



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B.A. in Earth Science

Advisor: Prof. Ken Voglesonger

2008-2014

*Northeastern Illinois University*

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## Peer-Reviewed Publications

1. 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
  2. Pearson, J., Fox-Kemper, Sane, A., In Prep: Blended second and third order structure function laws for passive-reactive tracers in geophysical flows
  3. Pearson, B., Pearson, J., Fox-Kemper, B., In Prep: Structure Functions in Quasigeostrophic Turbulence
  4. Pearson, B., Pearson, J., Fox-Kemper, B., In Revision in PRF: Relation between structure functions and cascade rates in anisotropic 2D turbulence
  5. 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](#)]
  6. 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](#)]
  7. 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](#)]
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## Professional & Teaching Experience



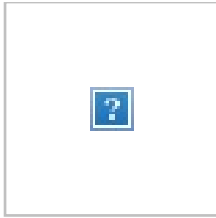
Graduate Research Assistant

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

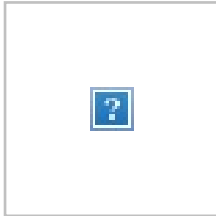
Fall 2015–Present

*Brown, University*



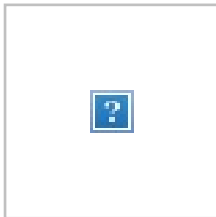
Instructor for Summer @ Brown  
Studying the Ocean from Blackboard to the Bay

Summer 2020  
*Brown University*



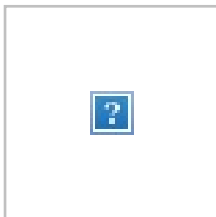
Course Designer and Co-instructor for Summer @ Brown  
Studying the Ocean from Blackboard to Drones

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

## Awards & Honors

### Funding

Brown Fellow, Brown University	2015-2016
NSF MaPs Scholar, Northeastern Illinois University	2012-2014
First Sergeant Council Scholarship, ILARNG	2011

### Honors

Tse Cheuk Ng Tai Innovations in Fluids and Health 2019 Award, <a href="#">Tse Cheuk Ng Tai Innovation Fund</a>	
GoMRI Scholar, Gulf of Mexico Research Initiative <a href="#">[Article]</a>	
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

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## 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*



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## Service & Outreach

Northeastern Illinois University Field School  
2 weeks producing detailed geologic maps, stereonet, and reports on geomorphological  
and glacial features of a syncline area

Contributions

Summer 2014  
*Baraboo, WI*

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	2019-Present
Reviewer, Journal of Physical Oceanography	2019-Present
Reviewer, Journal of Fluid Mechanics	2018-Present
Expert Reviewer, Intergovernmental Panel on Climate Change	2018-2019

#### Departmental Service

International Graduate Student Mentor, Brown University	2017-Present
First Year Graduate Student Mentor, Brown University	2017-Present
Geoclub Treasurer, Brown University	2016-2017

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## Invited Presentations

1. 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.
  2. 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.
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# Conference Contributions

1. Ben-Horin, T., Sane, A., Pearson, J., Fox-Kemper, B., 2019: Pathogen Dispersal in Narragansett Bay, [Fluids and Health](#). Oral. [[PPT](#)]
2. 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](#)]
3. 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](#)]
4. 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](#)]
5. 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](#)]
6. 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](#)]
7. 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](#)]
8. 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](#)]
9. 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](#)]
10. 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](#)]



11. 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](#)]
12. 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](#)]
13. Pearson, J., Fox-Kemper, B., Bodner, A., 2016: Preparing for Model-Data Comparison: Structure Functions and Frontogenesis. CARTHE II All Hands Meeting. Oral. [[PDF](#)]
14. 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](#)]
15. Palmer, J., Santana, L., Anderson, R., Price, A., 2013: Consistency across ancestries of genetic associations of type-II diabetes. Harvard Summer Research Symposium. Oral.

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## Professional Memberships

American Meteorological Society	2018-Present
American Geophysical Union	2018-Present
Graduate Women in Science & Engineering	2015-Present
Association for the Sciences of Limnology and Oceanography	2015-Present

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