CONTACT INFORMATION	Address:	Etcheverry Hall 2167, University of California, Berkeley CA 94720
	Tel:	(312) 340-1082
	Email:	sameli@berkeley.edu

EDUCATION	2013-2019	Doctor of Philosophy, Mechanical Engineering University of California, Berkeley, CA USA GPA: 4.00/4
	2015-2019	Master of Art, Mathematics University of California, Berkeley, CA USA GPA: 4.00/4
	2011-2013	Master of Engineering, Mechanical and Aerospace Engineering Illinois Institute Of Technology, Chicago, IL USA GPA: 4.00/4

WORK EXPERIENCES	2020-2022	Postdoctoral Scholar, University of California, Berkeley
	2015-2019	Graduate Student Researcher, University of California, Berkeley
	2014-2015	Graduate Student Instructor, University of California, Berkeley
	2013-2014	Graduate Student Researcher, University of California, Berkeley
	2011-2013	Graduate Research Assistant, Illinois Institute of Technology

AWARDS	2016	Outstanding Graduate Student Instructor Award, University of California, Berkeley

PUBLICATIONS	2022	Ameli, S., and Shadden, S. C. "DetKit, a python package for computing matrix determinant functions". (*in preparation*)
	2022	Ameli, S., and Shadden, S. C. "GLearn, a high-performance python package for machine learning using Gaussian process". (*in preparation*)
	2022	Ameli, S., and Shadden, S. C. "IMATE, a high-performance python package for implicit matrix trace estimation". (*in preparation*)
	2022	Ameli, S., and Shadden, S. C. "A singular Woodbury and pseudo-determinant matrix identities and application to Gaussian process regression". arXiv: 2207.08038 [math.ST] (*under review in Appl. Math. Comput.*)
	2022	Ameli, S., and Shadden, S. C. "Interpolating log-determinant and trace of the powers of matrix $A + tB$". arXiv: 2009.07385 [math.NA] (*under review in Stat. Comput.*).
	2020	Ameli, S., and Shadden, S. C., "Noise Estimation in Gaussian Process Regression". arXiv: 2206.09976 [cs.LG] (*under review in J. Mach. Learn. Res.*).
	2019	Ameli, S., "Riemannian Geometry of Nonlinear Deformation," *Ph.D dissertation*, University of California, Berkeley.
	2019	Ameli, S., "Spectral Representation of Solenoidal Fields," *Master's thesis*, University of California, Berkeley.
	2019	Ameli, S., Shadden, S. C., "A transport method for restoring incomplete ocean current measurements," *Journal of Geophysical Research: Oceans*, 124, 227-242.

2014 Ameli, S., Desai, Y. and Shadden, S. C., "Development of an efficient and flexible pipeline for Lagrangian coherent structure computation," *Topological Methods in Data Analysis and Visualization III, Mathematics and Visualization*, P.-T. Bremer et al. (eds.). Springer.

Invited Talks

2019 "Spectral Representation and Approximation of Solenoidal Fields," *Berkeley Fluid Seminar*, University of California, Berkeley.

Conference Presentations

2021 Ameli, S., Shadden, S. C., "Supervised Learning of Solenoidal Flows by Modal Analysis", *SIAM conference on Application of Dynamical Systems*, Snowbird UT.

2020 Ameli, S., Shadden, S. C., "Reconstruction of incomplete spatial data with feature preserving information transport", *American Geophysical Union, Ocean Science Meeting*, San Diego, CA.

2020 Ameli, S., Peacock, T., Shadden, S. C., "Stochastic trajectory predictions from ADCP velocity measurements", *American Geophysical Union, Ocean Science Meeting*, San Diego, CA.

2019 Ameli, S., Shadden, S. C., "Theory and Computation of Nonlinear Deformation Spectra of Flows with Geophysical Applications," *SIAM conference on Application of Dynamical Systems*, Snowbird UT.

2018 Filippi, M., Allshouse, M., Ameli, A., Haley, P. J., Kulkarni, C., Lermusiaux, P. F. J., Peacock, T., Rypina, I., Serra, M., "Experimental comparison of coherent structures methods applied to oceanic flows," *71th annual meeting of American Physical Society, Division of Fluid Dynamics*, Atlanta, GA.

2018 Frank, S. L., Ameli, S., Szeri, A. J., Shadden, S. C., "Filtering flow measurements in the left ventricle using modal analysis," *71th annual meeting of American Physical Society, Division of Fluid Dynamics*, Atlanta, GA.

2018 Ameli, S., Frank, S. L., Shadden, S. C., "Spectral representation and filtering of incompressible flow," *71th annual meeting of American Physical Society, Division of Fluid Dynamics*, Atlanta, GA.

2018 Ameli, S., Shadden, S. C., "An Online Gateway for Lagrangian Analysis of Ocean Surface Transport," *American Geophysical Union, Ocean Science Meeting*, Portland, OR.

2018 Ross, S. D., Rypina, I., Shadden, S. C., Peacock, T., Lermusiaux, P. F. J., Allshouse, M., Gawarkiewicz, G., Kirincich, A., Serra, M., Filippi, M., Schmale, D. G., Woolsey, C., Haley, P. J., Jana, S., Mirabito, C., Kulkarni, C., Dutt, A., Gupta, A., Hajj Ali, W., Ameli, S., "Targeted drifter deployments around Martha's Vineyard to uncover Lagrangian transport structures," *American Geophysical Union, Ocean Sciences Meeting*, Portland OR.

2018 Frank, S. L., Ameli, S., Szeri, A. J., Shadden, S. C., "De-noising of three-dimensional velocity fields using modal analysis," *8th World Congress of Biomechanics*, Dublin, Ireland.

2017 Ameli, S., Shadden, S. C. "A vorticity transport model to restore spatial gaps in velocity data," *70th annual meeting of American Physical Society, Division of Fluid Dynamics*, Denver, CO.

2017 Frank, S. L., Ameli, S., Szeri, A. J., Shadden, S. C., "Three-Dimensional Velocity Field De-Noising using Modal Projection," *70th annual meeting of American Physical Society, Division of Fluid Dynamics*, Denver, CO.

2016 Ameli, S., Shadden, S. C., "Computation of the deformation spectrum for flows on a sphere," *69th annual meeting of American Physical Society, Division of Fluid Dynamics*, Portland, OR.

2014 Ameli, S., Shadden, S. C., "An accurate computation of the flow map gradient," *Berkeley/Stanford CompFest*, Stanford University, Palo Alto, CA.

2014 Ameli, S., Shadden, S. C., "An accurate computation of the flow map gradient," *67^{th} annual meeting of American Physical Society, Division of Fluid Dynamics*, San Francisco, CA.

2013 Ameli, S., Shadden, S. C., "An extension of shear and strain LCS concepts to higher dimensions," *66^{th} annual meeting of American Physical Society, Division of Fluid Dynamics*, Pittsburgh, PA.

2013 Ameli, S., Shadden, S. C., "Software development for Lagrangian coherent structure computation," *Berkeley/Stanford CompFest*, University of California, Berkeley, CA.

2013 Shadden, S. C., Ameli, S., Desai, Y., "Development of an efficient and flexible pipeline for Lagrangian coherent structure computation," *SIAM conference on Application of Dynamical Systems*, Snowbird UT.

2013 Ameli, S., Desai, Y., Shadden, S. C., "Development of an efficient and flexible pipeline for Lagrangian coherent structure computation," *TopoInVis Conference*, Davis CA.

2012 Ameli, S., Desai, Y., Shadden, S. C., "Developing flexible but efficient software for dynamical systems analysis of fluid flow," *65^{th} annual meeting of American Physical Society, Division of Fluid Dynamics*, San Diego CA.

Services

Peer reviewer for the journals listed below.

2018 SIGRAPH ASIA 2018
2016 Journal of Fluid Mechanics
2015 Journal of Nonlinear Science
2015 Journal of Computational Physics