

## Scott A. Martin

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EDUCATION	<i>Graduate student in Oceanography</i>	2021-present
	MSc expected: 2023, PhD expected: 2026 School of Oceanography, University of Washington, Seattle, USA.	
	<i>Advanced Graduate Data Science Certificate</i> eScience Institute, University of Washington, Seattle, USA.	2021-present
RESEARCH EXPERIENCE	<i>MPhys in Physics (First Class)</i> Department of Physics, University of Oxford, Oxford, UK.	2017-2021
	<i>Graduate research assistant</i> School of Oceanography, University of Washington, Seattle, USA. <i>Advisor:</i> Georgy Manucharyan <i>Committee:</i> LuAnne Thompson, E. Virginia Armbrust (both UW Oceanography), Patrice Klein (JPL, Caltech), Steven Brunton (UW Mech. Engineering) Developing a deep learning approach for more accurately estimating surface ocean currents from sparse satellite observations in regions of energetic mesoscale turbulence.	2021-present
	<i>MPhys research project</i> Department of Physics, University of Oxford, Oxford, UK. <i>Advisor:</i> Caroline Terquem Applied a new theoretical formalism describing the interaction between convection and tides in the convective envelopes of binary stars to predict tidal circularization timescales for late-type binaries that are in good accord with the available observations, thus potentially resolving a longstanding open question in astrophysics. ( <i>Terquem &amp; Martin (2021)</i> )	2020-2021
	<i>Summer undergraduate research student</i> Central Laser Facility, Harwell, UK. <i>Advisor:</i> David Neely Developed a MATLAB code for 3D ray tracing of a laser beam as it passes through short-lived plasma guiding structures.	Summer 2018
AWARDS & FELLOWSHIPS	<i>Theodore &amp; Marie Sarchin Endowed Fellowship in Oceanography</i> School of Oceanography, University of Washington. \$17,500 additional graduate support over 3 years.	2021-2024
	<i>Johnson Memorial Prize for an MPhys Project in Astrophysics</i> Department of Physics, University of Oxford.	2021
	<i>University College Scholarship</i> University College, Oxford. Awarded for performance in undergraduate examinations.	2019, 2020, 2021
	<i>Gibbs Prize for the Physics Department Speaking Competition</i> Department of Physics, University of Oxford.	2019
	<i>University College Exhibition</i> University College, Oxford. Awarded for performance in undergraduate examinations.	2018

<b>PUBLICATIONS</b>	<b>Martin, S.</b> , Manucharyan, G., Klein, P., (2022), Synthesizing Sea Surface Temperature and Satellite Altimetry Observations Using Deep Learning Improves the Accuracy and Resolution of Gridded Sea Surface Height Anomalies, <i>Journal of Advances in Modelling Earth Systems</i> (under review).	
	Terquem, C., <b>Martin, S.</b> , (2021). The circularization timescales of late-type binary stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 507 (3), 4165-4177.	
<b>PRESENTATIONS</b>	<i>IMSI Remote Sensing for Climate Analysis Workshop</i> (virtual)	Nov. 2022
	‘Reconstructing surface mesoscale ocean dynamics from sparse satellite observations with deep learning’. (invited talk)	
	<i>Ocean Surface Topography Science Team Meeting</i> (Venice, IT)	Nov. 2022
	‘Deep learning for accurate SSH reconstruction from altimetry and SST observations’. (poster)	
	<i>Data Science in Oceanography undergrad. summer school</i> (UW)	Aug. 2022
	‘Reconstructing sea surface height from satellite observations with deep learning’. (invited talk)	
	<i>SWOT Science Team Meeting</i> (virtual)	Jun. 2022
<b>TEACHING &amp; MENTORING</b>	‘Using machine learning to interpolate SSH’. (invited talk)	
	<i>23rd AMS AOFD Conference</i> (Breckenridge, CO, USA.)	Jun. 2022
	‘A deep learning approach for reconstruction mesoscale ocean dynamics from satellite observations’. (poster)	
	<i>Ocean Sciences Meeting 2022</i> (virtual)	Mar. 2022
	‘Reconstructing sea surface height from sparse along-track satellite altimeter observations using deep learning: an exploratory study’. (poster)	
	<i>TA for UW course OCEAN 285: Physics across oceanography</i>	Sept. - Dec. 2022
	<i>Ocean Hack Week 2022</i>	Aug. 2022
<b>CODE SKILLS</b>	Co-mentored (with Georgy Manucharyan) a team of undergraduate and graduate students new to machine learning on a week-long Ocean Hack Week project using deep learning to forecast ENSO dynamics.	
	<i>Data science in oceanography undergrad. summer school</i> (UW)	Aug. 2022
	Prepared and led a tutorial for undergraduate students on the application of machine learning to problems in ocean science.	
	<i>Python</i> : computational fluid dynamics, physics modeling, deep learning (TensorFlow), data analysis, data visualisation.	
	<i>MATLAB</i> : computational fluid dynamics, physics modeling, data analysis, data visualisation.	
	<i>Linux</i> : experienced user.	
	<i>D3.js</i> : interactive data visualization.	