

DEEPAK A. CHERIAN

- Education** 2016: Ph.D., MIT-WHOI Joint Program in Oceanography, Physical Oceanography
2010: M.Tech. & B.Tech. (Hons.), Ocean Engineering & Naval Architecture,
Indian Institute of Technology, Kharagpur.
- Positions** 2020 Jan – present: Project Scientist I, National Center for Atmospheric Research
2019 Mar – 2020 Jan: Postdoctoral Fellow, National Center for Atmospheric Research
2017 Jan – 2019 Mar: Research Associate (Post-Doc), Oregon State University
2016 Sep – 2017 Jan: Postdoctoral Investigator, Woods Hole Oceanographic Institution
2010–2016: Graduate research assistant, Massachusetts Institute of Technology
& Woods Hole Oceanographic Institution
- Articles** Rypina, I.I., Pratt, L.J., Entner, S., Anderson, A., **Cherian, D.A.** (*in revision*).
“The Influence of an Eddy in the Success Rates and Distributions of Passively Ad-
vected or Actively Swimming Biological Organisms Crossing the Continental Slope”.
Journal of Physical Oceanography.
Cherian, D.A., Shroyer, E.L., Wijesekera, H.W. and Moum, J.N. (2020). “The seasonal cycle
of upper-ocean mixing at 8°N in the Bay of Bengal”.
Journal of Physical Oceanography 50: 323–342
Cherian, D.A. and Brink, K.H. (2018). “Shelf flows forced by deep-ocean anticyclonic
eddies at the shelfbreak”. Journal of Physical Oceanography. 48 (5): 1117–1138
Cherian, D.A. and Brink, K.H. (2016) “Offshore Transport of Shelf Water by Deep-Ocean
Eddies.”, Journal of Physical Oceanography 46 (12): 3599–3621
Brink, K.H. and **Cherian, D.A.** (2013) “Instability of an idealized tidal mixing front:
Symmetric instabilities and frictional effects.”
Journal of Marine Research 71 (6): 425–450.
Haine, T.W.N. and **Cherian, D.A.** (2013) “Analogies of Ocean/Atmosphere Rotating Fluid
Dynamics with Gyroscopes: Teaching Opportunities.”
Bull. Amer. Meteor. Soc. 94: 673–684.

Funding	<p>2019-2022 NASA Physical Oceanography, lead-PI, \$483k</p> <p>Co-Is: Emily Shroyer (OSU), Jonathan Nash (OSU)</p> <p>“Relating SSHA-derived Eddy Diffusivity to In-situ Estimates from Microstructure and ECCO.”</p>
Invited Talks	<p>2019 Jun: “When a deep-ocean eddy meets shelf-slope topography.”</p> <p>Gordon Research Conference, Coastal Ocean Dynamics.</p>
Talks & Posters	<p>“<i>Horizontal, vertical and temporal structure of vertical mixing modulated by Tropical Instability Waves</i>” — presented at</p> <p>2020 : (talk) AGU Ocean Sciences Meeting, 2020 - San Diego</p> <p>“<i>The seasonal cycle of upper-ocean mixing in the Bay of Bengal</i>” — presented at</p> <p>2019 : Massachusetts Institute of Technology, Sack Lunch Seminar</p> <p>Woods Hole Oceanographic Institution, Physical Oceanography Seminar</p> <p>National Center for Atmospheric Research, CGD seminar</p> <p>Oregon State University, CEOAS seminar</p> <p>2018 : (poster) Gordon Research Conference, Ocean Mixing</p> <p>(talk) AGU Ocean Sciences Meeting, 2018 - Portland</p> <p>“<i>Shelf flows forced by mesoscale eddies at the shelfbreak</i>” — presented at</p> <p>2017 : (poster) Gordon Research Conference - Coastal Ocean Dynamics</p> <p>“<i>Offshore export of shelf water by deep-ocean eddies</i>” — presented at</p> <p>2017 : National Taiwan University</p> <p>Oregon State University, CEOAS seminar</p> <p>2016 : Indian Institute of Science, College of Ocean and Atmospheric Sciences</p> <p>(talk) AGU Ocean Sciences Meeting, 2016 - New Orleans</p> <p>“<i>Arresting an eddy’s cross-isobath translation</i>” — presented at</p> <p>2016 : Oregon State University, CEOAS seminar</p> <p>Massachusetts Insitute of Technology, Sack Lunch Seminar</p> <p>2015 : (talk, poster) Gordon Research Conference - Coastal Ocean Modeling</p>
Software	<p>Core developer of Python package <code>xarray</code>.</p> <p>Extensive experience with parallel analysis of large datasets using scientific Python packages on HPC and cloud computing systems e.g. Dask, NumPy, Pandas, <code>xarray</code>; extensive experience with MATLAB</p> <p>Experience with configuring and running the Regional Ocean Modeling System (ROMS)</p>

Outreach & Service	<p>Reviewer for Ocean Science, Geophysical Research Letters, Journal of Geophysical Research - Oceans, Journal of Marine Research and Journal of Physical Oceanography.</p> <p>Conducted rotating tank lab demonstrations for broad audience (public, scientists, students — graduate and K-12) at WHOI GFD Open Days, 2013.</p>
Teaching	<p>2017 Winter Term: Guest Lecture for “Geophysical Waves” , (graduate level course), Oregon State University</p> <p>2014 Fall semester: Teaching Assistant, “Observational Physical Oceanography” (graduate level course), Massachusetts Institute of Technology.</p> <p>2013 Jan: Lecturer, Four lectures on “Physical Oceanography”, WHOI Winter Semester for Undergraduates</p>
Additional Training	<p>2014 Coastal and Estuarine Field Methods Summer School, Woods Hole Oceanographic Institution</p> <p>2013 Teaching Certificate Program, Massachusetts Institute of Technology</p> <p>2012 Estuarine and Coastal Fluid Dynamics Summer School, University of Washington Friday Harbor Laboratories</p>
Fieldwork	<p>2018 Sep: <i>R/V Thomas G. Thompson</i>, Western Pacific. PI: Jim Moum (OSU)</p> <p>2017 Feb: <i>R/V Roger Revelle</i>, South China Sea. PI: Lou St-Laurent (WHOI)</p> <p>2014 July: <i>R/V Tioga</i>, off Martha’s Vineyard. (student-run cruise for summer school) PI: Deepak Cherian, Jonathan Fincke, Cara Manning (WHOI).</p> <p>2013 Nov: <i>R/V Roger Revelle</i>, Bay of Bengal. PI: Emily Shroyer (OSU)</p> <p>2011 July: <i>SSV Corwith Cramer</i>, Middle Atlantic Bight. PI: Donglai Gong (WHOI)</p>