

Ratnaksha Lele

PhD Candidate
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EDUCATION

UC SAN DIEGO

PHD IN OCEANOGRAPHY
 Expected 2022

UC SAN DIEGO

MASTER OF SCIENCE
 PHYSICAL OCEANOGRAPHY
 Dec 2018

VIT UNIVERSITY

BACHELOR OF TECHNOLOGY
 MECHANICAL ENGINEERING (2016)
 June 2016

LINKS

Github:
[www.github.com/ratnaksha](https://github.com/ratnaksha)

LinkedIn:
www.linkedin.com/in/ratnakshalele

COURSEWORK

GRADUATE

ML for Physical Applications
 Data Analysis Methods I,II & III
 Geophysical Fluid Dynamics I& II
 Applied Mathematics I,II & III

UNDERGRADUATE

Probability and Statistics
 Computational Fluid Dynamics
 Applied Numerical Methods
 Operations Research

SKILLS

PROGRAMMING

Over 5000 lines:
 Python • MATLAB • C
 \LaTeX

ML frameworks:
 Keras • Tensorflow • Scikit-learn

Familiar:
 R • Julia

EXPERIENCE

SCRIPPS INSTITUTION OF OCEANOGRAPHY

GRADUATE STUDENT RESEARCHER
 Aug 2016 - Present | La Jolla, CA

WOODS HOLE OCEANOGRAPHIC INSTITUTION

UNDERGRADUATE RESEARCHER
 June 2014 – Aug 2014 | Woods Hole, MA

- Analyzed **Ice Tethered Profiler** (ITP) data from the Arctic
- Calculated momentum and energy budgets for sea-ice to parameterize in climate models: published in *Elementa:Science of the Anthropocene*

INDIAN INSTITUTE OF SCIENCE

UNDERGRADUATE RESEARCHER
 June 2014 – Aug 2014 | Bangalore, India

- Analysis of tropical hurricane and cyclone data from satellite observations and climate reanalysis data
- R&D of new tropical cyclone detection and prediction algorithm for the Indian Subcontinent

RESEARCH

SCRIPPS INSTITUTION OF OCEANOGRAPHY | PHD CANDIDATE

Aug 2016 - Present | La Jolla, CA
 Working with **Dr. Sarah Purkey**, **Dr. Jonathan Nash** and **Dr. Jen MacKinnon** on measuring, assessing and quantifying the role of turbulent mixing in the global deep oceans from novel measurements from χ pod turbulence profiler

WOODS HOLE OCEANOGRAPHIC INSTITUTION |

UNDERGRADUATE RESEARCH FELLOW
 June 2015 – Aug 2015 | Woods Hole, MA
 Part of collaborative study with **Dr. John Toole** on sea-ice momentum and energy budget using weather and sea-ice physics measurements using **ITP** data.

AWARDS

- 2020 NASA Future Investigator in Earth and Space Science Fellowship Grant
- 2020 NASA JPL Center for Climate Science Summer School
- 2017 Departmental Travel Award for Research Excellence
- 2016 UC San Diego Regents Fellowship
- 2016 VIT University Special Achiever Award
- 2015 Woods Hole Oceanographic Institution Summer Student Fellowship
- 2014 Indian Academy of Sciences Summer Research Fellowship

PUBLICATIONS

- [1] J D Nash, **R Lele**, J A Mackinnon, S G Purkey, et al. Estimating χ using fast-response thermistors on traditional shipboard CTDs: sources of uncertainty and bias. *Journal of Atmospheric and Oceanic Technology*, in prep.
- [2] **R Lele**, S G Purkey, J D Nash, J A Mackinnon, A M Thurnherr, C B Whalen, et al. Abyssal Mixing in the South West Pacific Basin. *Journal of Physical Oceanography*, in prep.
- [3] Sylvia T Cole, John M Toole, **Ratnaksha Lele**, Mary-Louise Timmermans, Shawn G Gallaher, Timothy P Stanton, William J Shaw, Byongjun Hwang, Ted Maksym, Jeremy P Wilkinson, et al. Ice and ocean velocity in the arctic marginal ice zone: Ice roughness and momentum transfer. *Elementa Science of the Anthropocene*, 5, 2017.
- [4] R Lele. An investigation into arctic sea-ice dynamics and energetics. *Report submitted in partial fulfillment of the WHOI Summer Student Fellowship*, 2015.

CONFERENCE PRESENTATIONS

R Lele et al, *Abyssal Mixing in the South West Pacific Basin*. Ocean Sciences Meeting, San Diego CA, Feb 2020, **Talk**.

R Lele et al, *Recipes of Turbulent Mixing from the South Pacific*. Gordon Research Conference on Ocean Mixing, Andover NH, June 2018, **Poster**.

R Lele et al, *Decadal Changes in the Properties and Transport of AABW at 32°S in the Southwest Pacific Basin*. Ocean Sciences Meeting, Portland OR, Feb 2018, **Talk**.

R Lele and SG Purkey *Antarctic Bottom Water Warming in the South West Pacific Basin*. Graduate Climate Conference, Woods Hole MA, June 2018, **Poster**.

R Lele et al, *An Investigation into Arctic Sea-Ice Dynamics and Energetics*. Ocean Sciences Meeting, New Orleans LA, Feb 2016, **Talk**.

TEACHING EXPERIENCE

Introduction to Physical Oceanography SIO-210

Teaching Assistant

Fall 2020

Introduction to Programming in C ITE-101

Teaching Assistant

Fall 2012

OCEANIC FIELDWORK EXPERIENCE

HLY-1803 Experiment in the Beaufort and Chukchi Seas

US Coast Guard Cutter Healy

Oct-Nov 2018

GO-SHIP P06 Leg-1 in the South Pacific

RVIB Nathaniel B. Palmer

Jul-Aug 2017

La Jolla Internal Tide Experiment

R/V Sally Ride

Dec 2016