



# 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  
June 2016

## LINKS

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

LinkedIn: [www.linkedin.com/in/ratnakshalele](https://www.linkedin.com/in/ratnakshalele)

## WORK EXPERIENCE

### SCRIPPS INSTITUTION OF OCEANOGRAPHY

Graduate Student Researcher  
Aug 2016 – Present | La Jolla, CA

### WOODS HOLE OCEANOGRAPHIC INSTITUTION

Undergraduate Researcher  
June 2015 – Aug 2015 | 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

## 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

### Over 5000 lines:

Python • MATLAB • C  
LaTeX

### ML frameworks:

Keras • Tensorflow • Scikit-learn

### Familiar:

R • Julia

## 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 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 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 32oS 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, Nov 2017, **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