

# Aditya Narayanan

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Born: May 14th, 1988

Nationality: Indian

## Current position

*Graduate Student*, [Indian Institute of Technology, Madras](#);

*Senior Project Scientist*, [Industrial & Consultancy Centre, IIT Madras](#)

## Areas of specialization

Shelf sea processes • Southern Ocean dynamics • Dense Shelf Water formation processes • Circumpolar Deep Water dynamics • Fluid Dynamics • Marine Turbulence

## Education

2014-      Ph.D., currently ongoing, in Physical Oceanography, IIT Madras  
2013-2014      MS program, converted to direct PhD in 2014, IIT Madras  
2006-2010      BTech in Civil Engineering, National Institute of Technology, Jalandhar

## Courses undertaken in present program

**CGPA: 8.74**

Course	Name	Credits	Grade
AS5420	Introduction to CFD	3	C
MA5720	Numerical Analysis of Diff Equations	3	A
OE5030	Wave Hydrodynamics	3	A
ME5530	Introduction to Atmospheric Science	3	B
OE5450	Num. Techniques in Ocean Hydrodynamics	4	S
CH8010	Advanced topics in CFD	3	A
MA5540	Probability and Statistics	3	B
OE5010	Oceanography	3	A
OE6999	Special Topics in Ocean Engineering	3	A
OE7999	Special Topics in Ocean Engineering	3	A

## Publications

### Journals

- 2019 Aditya Narayanan, Sarah Gille, Matthew Mazloff, Murali K, “Water mass characteristics of the Antarctic margins and the production and seasonality of Dense Shelf Water”, submitted to *Journal of Geophysical Research: Oceans*

### Conferences

- 2019 Aditya Narayanan, Sarah T. Gille, Matthew Mazloff, Murali K, (2019), “Antarctic shelf break processes and their role in determining the bottom temperature regime of the shelf seas”, *National Conference on Polar Sciences, National Centre for Polar and Ocean Research, Goa, India*.
- 2018 Aditya Narayanan, Murali K, (2018), “Analysis of Turbulence in the Weddell Sea: Observations and Modeling”, *Ocean Sciences Meeting, Portland*.
- 2016 Aditya, Narayanan (2016), “Mathematical and numerical modeling of the physics of cold water downslope flows”, *CLIVAR Open Science Conference, Qingdao*.

## Grants

- 2019–2021 Co-wrote and defended a grant received from Pacer Outreach Program (POP) under The Polar Science And Cryosphere (PACER) Programme initiative granted by [ESSO-NCPOR \(MoES\)](#) for the project titled, “*Shelf sea and shelf break processes of the Antarctic margins and the production of Dense Shelf Water*”, for the period July 2019 to July 2021, sanctioned for an amount of Rs. 24,03,000/-.
- 2019–2020 Co-wrote and defended successfully a project proposal – “*Antarctic Slope Front dynamics and cross slope exchanges of heat in the Prydz Bay*” – to sail with the Indian Southern Ocean Expedition 2019-2020 to be conducted by ESSO-NCPOR, Goa.

## Academic achievements & awards

- 2016 WCRP CLIVAR Open Science Conference, Qingdao, 2016, travel assistance award.
- 2018 Erik Berkner travel grant to attend Ocean Sciences Meeting, Portland, 2018 (joint conference of AGU, TOS, and ASLO).
- 2019 1<sup>st</sup> runner up for best poster award during Young Polar Scientist Meeting held at the National Conference on Polar Sciences, National Center for Polar and Ocean Research, Goa, 2019.

## Workshops Attended

- 2019 Air Sea Interactions in the Bay of Bengal, organised by TIFR-ICTS, Bengaluru
- 2016 International Summer School on Earth System Modeling, jointly organised by ICTP, Trieste, Italy, and Indian Institute of Tropical Meteorology, Pune
- 2015 Numerical modeling of free surface flows in coastal and ocean engineering, hands on experience, jointly organised by IITM and NTNU
- 2015 International Symposium on Antarctic Earth Sciences, Goa

2014 High Performance Computing Workshop, jointly organised by IIT Madras, IIT Bombay, C-DAC Pune, and NVIDIA Corporation

## Skills and tools

- Descriptive and dynamical physical oceanography.
- Climate and ocean data analysis: handling large data sets larger than RAM, analysing data sets on cluster computing platforms across distributed memory
- Scientific computing in Python, including Scipy, Numpy
- Climate tools: Python Xarray, Cartopy, GSW toolbox etc...
- Parallel computing
- Bash scripting

## Appointments held

2019- Senior Project Scientist, IC&SR, IIT Madras  
2013-2019 Half time teaching assistant, IITM  
2010-2013 Project Engineer, Flowline Systems Pvt Ltd  
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