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 1st 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 Internation 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

Philosophy

The Southern Ocean is an important driver of the global climate. The oceanic thermal forcing on the ice sheets and their response to this forcing are a big unknown in the climate forecasts. As a scientist, I would like to do my part to inform the public and policy makers about the threats faced by vulnerable communities and ecosystems that are threatened by the impacts of rapid climate change.

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