

ARNAB MUKHERJEE

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Scientist 'E'

ESSO - National Centre for Polar and Ocean Research (NCPOR),

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Google Scholar:<https://scholar.google.co.in/citations?user=VferLOEAAAAJ&hl=en>

Personal webpage: <http://www.ncaor.gov.in/profiles/details/316>



ACADEMIC OPPORTUNITY

- Students having a first-class M.Sc./M.Tech. ((60% or more) or equivalent grades) in Marine Sciences/ Oceanography/ Atmospheric Sciences/ Earth Sciences/ Meteorology/ Physics/ Mathematics or related fields and have cleared the National Eligibility Test (NET-JRF) conducted by CSIR/UGC/DBT/DST or should have been provisionally selected for INSPIRE Ph.D. fellowship. can apply for Ph.D opportunity at NCPOR under my guidance using the link

<https://ncpor.res.in/pages/display/450-phd-and-postdoc>

- For Internship and Dissertation work under my guidance, students can apply online using the link <https://ncpor.res.in/pages/display/449-internship-and-dissertation>

EDUCATION

Ph.D. (2017), National Institute of Oceanography, CSIR, India and Goa University, Goa, India. Thesis title: *Intraseasonal variability of currents along east coast of India.*

M.Sc. (2008) Physics, Indian Institute of Technology (IIT), Delhi, India.

B.Sc. (2006) Physics Hons., Katwa College, Burdwan University, West Bengal (WB), India.

10+2 (2003), Katwa Bharati Bhavan, WB Board of Higher Secondary Education, WB, India.

10 (2001), Katwa Bharati Bhavan, WB Board of Secondary Education, WB, India.

RESEARCH AREA

- Global ocean and sea-ice modeling
- Global ocean circulations
- Observed variability and dynamics of the polar ocean
- Deep sea variability and climate change
- Dynamics of North Indian Ocean
- Coastal Oceanography

JOB EXPERIENCES

- Scientist 'E' (01 January 2024 – till date) at Arctic Ocean - Atmospheric Interaction Group, National Centre for Polar and Ocean Research (NCPOR), Ministry of Earth Sciences (MoES), Government of India.

- Scientist 'D' (12 December 2019 – 31 December 2023) at Arctic Ocean - Atmospheric Interaction Group, National Centre for Polar and Ocean Research (NCPOR), Ministry of Earth Sciences (MoES), Government of India.

- Project Scientist 'C' (23 January 2019 – 11 December, 2019) at Modeling and Data Assimilation Group (MDG), Indian National Centre for Ocean Information Services (INCOIS), Ministry of Earth Sciences, Government of India.

- Project Scientist ‘B’ (November, 2014–22 January, 2019) at Modeling and Data Assimilation Group (MDG), Indian National Centre for Ocean Information Services (INCOIS), Ministry of Earth Sciences, Government of India.
- Junior and Senior Research Fellow (November, 2009–October 2014) at Physical Oceanography Division (POD), National Institute of Oceanography (NIO), CSIR, Goa, India.
- Project assistant (August 2008–October 2009) at Computational Neuroscience Division, National Brain Research Center (NBRC), DBT, Gurgaon, India.

LIST OF PUBLICATIONS

2024

- Ananthu Pradeep and **A. Mukherjee**. Role of atmospheric and oceanic processes on interannual summertime (2016–2017) decrease of sea ice in the Antarctic regions of the Southern Ocean. *Polar Science*, 2024.
<https://doi.org/10.1016/j.polar.2024.101108>.
- **A. Mukherjee**. Role of atmospheric and oceanic processes on decadal change of Antarctic sea-ice between 2000–2019. • *Dynamics of Atmospheres and Oceans*, 107 (101481), 2024. <https://doi.org/10.1016/j.dynatmoce.2024.101481>.
- G. Srinivas, P. Amol and **A. Mukherjee**. Influence of the extreme Indian Ocean dipole 2019 on the equatorial Indian Ocean circulation. *Climate Dynamics*, 2024.
<https://doi.org/10.1007/s00382-024-07268-1>.

2023

- **A. Mukherjee** and S. Ghosh. The changes in La Niña induced summertime interannual variability of sea level anomaly along the western boundary of the Bay of Bengal. *Ocean Dynamics*, 1–14, 2023. <https://doi.org/10.1007/s10236-023-01557-9>.

2022

- **A. Mukherjee** and M. Ravichandran. Role of atmospheric heat fluxes and ocean advection on decadal (2000–2019) change of sea-ice in the Arctic. *Climate Dynamics*, **60**, 11–12, **3503–3522**, **2023**.

<https://doi.org/10.1007/s00382-022-06531-7>.

2021

- V. Jain, D. Shankar, P. N. Vinayachandran, **A. Mukherjee**, P. Amol. Role of ocean dynamics in the evolution of mixed-layer temperature in the Bay of Bengal during the summer monsoon. *Ocean Modelling*, **168**, **101895**, **2021**.

<https://doi.org/10.1016/j.ocemod.2021.101895>.

- P. N. Vinayachandran, Y. Masumoto, M. J. Roberts, J. A. Huggett, I. Halo, A. Chatterjee, P. Amol, G. V. M. Gupta, A. Singh, **A. Mukherjee**, S. Prakash, L. E. Beckley, E. J. Raes, R. Hood. Reviews and syntheses: Physical and biogeochemical processes associated with upwelling in the Indian Ocean. *Biogeosciences*, **18**, **5967–6029**, **2021**. <https://doi.org/10.5194/bg-18-5967-2021>.

- M. Chatterjee, D. Shankar, V. Vijith, G. K. Sen, D. Sundar, G. S. Michael, P. Amol, A. Chatterjee, P. Sanyal, S. Chatterjee, A. Basu, S. Chakraborty, S. K. Mishra, K. Suprit, D. Mukherjee, **A. Mukherjee**, et. al. Variation of salinity in the Sundarbans Estuarine System during the Equinoctial Spring tidal phase of March 2011. *Journal of Earth System Science*, **130–150**, **2021**. <https://doi.org/10.1007/s12040-021-01636-9>.

2020

- P. A. Francis, A. K. Jithin, J. B. Effy, A. Chatterjee, K. Chakraborty, A. Paul, B. Balaji, S. S. C. Shenoi, P. Biswamoy, **A. Mukherjee**, et al. High-resolution Operational Ocean Forecast and Reanalysis System for the Indian Ocean. *Bulletin of American*

Meteorological Society, 101 (08),1340–1356, 2020.

<https://doi.org/10.1175/BAMS-D-19-0083.1>

• S. Mukhopadhyay, D. Shankar, S. G. Aparna, **A. Mukherjee**, V. Fernando, A.

Kankonkar, S. Khalap, N. P. Satelkar, M. G. Gaonkar, A. P. Tari, R. R. Khedekar and S. Ghatkar. Observed variability of the East India Coastal Current on the continental slope during 2009–2018. *Journal of Earth System Science*, 129 (77), 2020.

<https://doi.org/10.1007/s12040-020-1346-8>.

• P. A. Francis, A. K. Jithin, A. Chatterjee, **A. Mukherjee**, D. Shankar, P. N.

Vinayachandran and S. S. V. S. Ramakrishna. Structure and Dynamics of the Undercurrents along the South-East Coast of India. *Ocean Dynamics*, 70:387–404,

2020. <https://doi.org/10.1007/s10236-019-01340-9>.

• E. B. John, P. A. Francis, S. Ramakrishna and **A. Mukherjee**. Anomalous warming of the Western Equatorial Indian Ocean in 2007: Role of Ocean Dynamics. *Ocean*

Modelling ,147:10142:1-11, 2020. <https://doi.org/10.1016/j.ocemod.2019.101542>

2019

• **A. Mukherjee**, Abhisek Chatterjee and P. A. Francis. Role of Andaman and Nicobar Islands in eddy formation along western boundary of the Bay of Bengal. *Nature*

Scientific Reports ,9, No: 10152, Doi:10.1038/s41598-019-46542-9.

<https://www.nature.com/articles/s41598-019-46542-9>

• **A. Mukherjee** and B. K. Kalita. Signature of Laña in interannual variations of the East India Coastal Current during spring. *Climate Dynamics* ,

Doi:10.1007/s00382-018-4601-9, 2019.

<https://link.springer.com/article/10.1007/s00382-018-4601-9>

2018

- P. Singh, A. Chatterjee, **A. Mukherjee**, M. Ravichandran and S. S. C. Shenoi. Wyrтки Jets: Role of Intraseasonal forcing. *Journal of Earth System Science* , 128:21, 1–18, Doi:10.1007/s12040-018-1042-0,128:21, 2018.

<https://link.springer.com/article/10.1007/s12040-018-1042-0>

2017

- S. Mukhopadhyay, D. Shankar, S. G. Aparna and **A. Mukherjee**. Observations of the sub-inertial, near-surface East India Coastal Current. *Continental Shelf Research* , 148, 159–177, Doi:<http://dx.doi.org/10.1016/j.csr.2017.08.020>, 2017.

<http://www.sciencedirect.com/science/article/pii/S0278434316305817>

- **A. Mukherjee**, D. Shankar, A. Chatterjee and P. N. Vinayachandran. Numerical simulation of the observed near-surface East India Coastal Current on the continental slope. *Climate Dynamics* , 50 (11–12), 3949–3980, Doi:10.1007/s00382-017-3856-x, 2017.

<https://link.springer.com/article/10.1007/s00382-017-3856-x>

- A. Chatterjee, D. Shankar, J. P. McCreary, P. N. Chandrasekhar and **A. Mukherjee**. Dynamics of Andaman Sea circulation and its role in connecting the equatorial Indian Ocean to the Bay of Bengal. *Journal of Geophysical Research* , 122, 3200–3218, doi:10.1002/2016JC012300, 2017.

<http://onlinelibrary.wiley.com/doi/10.1002/2016JC012300/full>

2016

- V. Jain, D. Shankar, P. N. Vinayachandran, A. Kankonkar, A. Chatterjee, P. Amol, A. M. Almeida, G. S. Michael, **A. Mukherjee**, M. Chatterjee, R. Fernandes, R. Luis, A. Kamble, A. K. Hegde, S. Chatterjee, U. Das and C. P. Neema. Evidence for the existence of Persian Gulf Water and Red Sea Water in the Bay of Bengal. *Climate Dynamics*, 48 (9), 3207-3206, 2016.

<http://link.springer.com/article/10.1007/s00382-016-3259-4>

2015

- **A. Mukherjee**, A. Chatterjee, V. V. S. S. Sarma and S. S. C. Shenoi. Physical Sciences of the Ocean: A report to IAPSO. *Indian National Science Academy* , Indian National Report for IUGG, 2015.

2014

- **A. Mukherjee**, D. Shankar, V Fernando, P. Amol , S. G. Aparna, R. Fernandes, G. S. Michael, S. T. Khalap, N. P. Satelkar, Y. Agarvadekar, M. G. Gaonkar, A. P. Tari, A. Kankonkar and S. P. Vernekar. Observed seasonal and intraseasonal variability of the East India Coastal Current on the continental slope. *Indian National Report for IUGG 2015*, 149-174, 2014.

<http://www.ias.ac.in/jess/forthcoming/JESS-D-13-00351.pdf>

- P. Amol, D. Shankar, V Fernando, **A. Mukherjee**, S. G. Aparna, R. Fernandes, G. S. Michael, S. T. Khalap, N. P. Satelkar, Y. Agarvadekar, M. G. Gaonkar, A. P. Tari, A. Kankonkar and S. P. Vernekar. Observed intraseasonal and seasonal variability of the West India Coastal Current on the continental slope. *Journal of Earth System Science*, 123 (5), 1045-1074, 2014.

<http://www.ias.ac.in/jess/jul2014/1045.pdf>

2013

- M. Chatterjee, D. Shankar, G.K. Sen, P. Sanyal, D. Sundar, G.S. Michael, A. Chatterjee, P. Amol, D. Mukherjee, K. Suprit, **A. Mukherjee**, V. Vijith, S. Chatterjee, A. Basu, M. Das, S. Chakraborti, A. Kalla, S. K. Mishra, S. Mukhopadhyay, G. Mandal, and K. Sarkar. Tidal Variations in the Sundarbans Estuarine System, India. *Journal of Earth System Science*, 122 (4), 899-933, 2013.

<http://www.ias.ac.in/jess/aug2013/899.pdf>

- **A. Mukherjee**, D. Shankar, S. G. Aparna, P. Amol, V. Fernando, R. Fernandes, S. Khalap, S. Narayan, Y. Agarvadekar, M. Gaonkar, P. Tari, A. Kankonkar and S. Vernekar. Near-inertial currents off the east coast of India. *Continental Shelf Research*, 55, 29-39, 2013, doi:<http://dx.doi.org/10.1016/j.csr.2013.01.007>.
<http://www.sciencedirect.com/science/article/pii/S0278434313000174>.

2012

- P. Amol, D. Shankar, S. G. Aparna, S. S. C. Shenoi, V. Fernando, S. R. Shetye, **A. Mukherjee**, Y. Agarvadekar, S. Khalap, and N. P. Satelkar. Observational evidence from direct current measurements for propagation of remotely forced waves on the shelf off the west coast of India. *Journal of Geophysical Research*, 117, C05017, 2012, doi:10.1029/2011JC007606
<http://onlinelibrary.wiley.com/doi/10.1029/2011JC007606/full>

HONORS AND AWARDS

- Marine Working Group member of International Arctic Science Committee (IASC).
- Lifetime member of ocean society of India.
- Awarded for **exemplary services** to CSIR -National Institute of Oceanography (NIO) for the year 2010.
- Qualified National Eligibility Test (**NET**) for lectureship in Physics during December, 2007.
- Qualified Joint Admission Test for **M.Sc (JAM) at IIT in Physics** (2006) with all India Rank 153.

ORAL/POSTER/WORKSHOP/MEETING/SUMMER SCHOOL

2024

- Participated ASSW 2024 at Edinburgh, Scotland, UK between 25–26 March, 2024.

2023

- Oral presentation at **ASSW 2023** at Vienna, Austria, 19-22 February, 2023 and attend Marine working group meeting as member.
- Attended WCSSP annual meeting at NCMRWF, Noida, UP, India during 27 February–03 March, 2023.
- Invited lecture at NCPOR, MoES, Goa on the topic "The application of mathematics in modelling and climate related studies" during 13 March, 2023.
- Invited lecture at NCPOR, MoES, Goa on the topic "Numerical simulation of observed decadal and interannual variability of sea-ice in the Arctic using MOMSIS" during Sea Ice Modelling and Observations workshop (SiMO) on 17 May, 2023.
- Participated on National conference on Polar Sciences (NCPS) at NCPOR, MoES, Goa, India between 16–19 May, 2023.

2022

- Oral presentation at **IIOSC conference** online, 14-18 March, 2022.
- Oral presentation at **WCSSP annual meeting** via online, 07-11 March, 2022.
- Oral presentation at **SCAR 2022** via online, 01-10 August, 2022.

2021

- Poster presentation at **WCSSP annual meeting** via online, 01-04 February, 2021.

2018

- Participated in an international workshop on "**Ocean Mesoscale Eddy Interactions with the Atmosphere**", 17-18 February, 2018 at Portland, USA.
- Poster presentation at International conference on "**Ocean Sciences Meeting**" at Portland, USA, 11-16 February, 2018.

2017

- Participated in an international summer school on "**New Frontiers in Operational Oceanography**", 2-13 October, 2017 at Mallorca, Spain. This summer school was organized by GODAE Ocean View (GOV).

2015

- Poster presentation at International Symposium on "**Dynamics of the Indian Ocean: Perspective and Retrospective**" at Goa, December 2015.

2013

- Participated in an international summer school on "**Fundamentals of Ocean Climate Modelling at Global and Regional Scales**" during 5-14 August, 2013 at INCOIS, Hyderabad.

2011

- Oral presentation at "**International PORSEC workshop**", Kochi, November 2011.
- Oral presentation at "**International workshop on Monsoon Variability**", IISC Bangalore during 17-19 August, 2011.

2010

- Summer school on "**Dynamics of the North Indian Ocean**". NIO, Goa, June-July 2010.

TEACHING EXPERIENCE

- Worked as a teaching faculty for Physical Oceanography, Statistics and Remote Sensing at NCPOR, Goa for Ph.D. students.
- Worked as a faculty at IMD (Indian Meteorological Department) on the topic "Physical Oceanography and Ocean-Atmosphere interaction" for Meteorologist Gr. II (Direct requisited Class-I officer) officers.
- Worked as a faculty at International Training Centre for Operational Oceanography (ITCOcean), INCOIS, Hyderabad.
- Experience in teaching "Basics of Linear, continuously stratified (LCS) model" and "Fundamentals of ocean general circulation model (OGCM) and hands on training" at International Training Centre for Operational Oceanography (ITCOcean), INCOIS, Hyderabad, India.

SEA AND FIELD EXPERIENCES

- CTCZ programme (8 July–8 August, 2012) on **ORV Sagar Kanya** to the north-central Bay of Bengal.
- Monsoon experiment (17 December 2016–3 January, 2017) on **ORV Sagar Nidhi** to the north-central Bay of Bengal.

REVIEWER

- Journal of Geophysical Research (Oceans), American Geophysical Union (AGU)..

- Progress in Oceanography, Elsevier publications..
- Continental Shelf Research (CSR), Elsevier publications.
- Earth system and environmental science, Elsevier publications.
- Ocean Modelling, Elsevier publications.
- Deep Sea Research, Elsevier publications.
- Journal of Earth System Sciences, Springer publications..
- Polar Sciences, Elsevier publications..

INTERNSHIP/DISSERTATION STUDENTS

2024

- Ms. Janki Kanzariya, M.Sc.in Physics, NIT Surat, India, Internship.
- Ms. Sania Siddiqui, M.Sc.in Physics, BITS Pilani, India, Internship.
- Ms. Anoushka Singh, M.Sc.in Physics, BITS Pilani, India, Internship.
- Ms. Anushka Singh Bhati, M.Sc.in Climate Science and Policy, TERI University, India, Internship.

2023

- Ms. Akshata Khandelwal, M.Sc.in Physics, BITS Pilani, India, Internship.
- Mr. Varad Bidwai, M.Sc.in Physics, BITS Pilani, India, Internship.
- Ms. Akshaya Muraleedharan V, M.Sc.in Physical Oceanography, CUSAT, India, Internship.
- Ms. Gowri Nair A S, M.Sc.in Physical Oceanography, CUSAT, India, Internship.

- Ms. Shyamasri Adhikari, B.Sc.in Physics, Katwa College, The university of Burdwan, West Bengal, India, Internship.

- Mr. Swarnendu Saha, M.Sc.in Physics, IISER Kolkata, India, Internship.

- Mr. Ananthu Pradeep, M.Sc in Physical Oceanography, CUSAT, Kochi, India, (Dissertation).

2022

- Mr. Ishaan Kudchadkar, M.Sc.in Physics, BITS Goa, India, Internship.

- Mr. Arnab Gupta, M.Sc. in Physics, BITS Goa, India, Internship.

- Mr. Soumyadeep Pandit, M.Sc in Marine Sciences, University of Calcutta, India, (Dissertation).

2021

- Ms. Oishi Chakraborty, M.Sc. in Earth Sciences, University of Hyderabad, India, Internship.

- Mr. Ravi Teja, M.Sc. in Earth Sciences, University of Hyderabad, India, Internship.

- Ms. Priyanka Ghosh, M.Sc in Marine Sciences, University of Calcutta, India, (Dissertation).

- Ms. Anjali Kumari, M.Sc in Marine Sciences, University of Calcutta, India, (Dissertation).

2020

- Mr. Supriyo Ghosh, M.Sc in Earth Sciences, University of Hyderabad, India, Dissertation.

2019

- Mr. Nandakishore, M.Sc.in Earth Sciences, KUFOS, Kochi, India, Internship.
- Mr. Ranjan Sahu, M.Sc. in Earth Sciences, University of Hyderabad, India, Internship.
- Mr. Supriyo Ghosh, M.Sc. in Earth Sciences, University of Hyderabad, India, Internship.

2018

- Mr. Bijit Kalita, M.Sc in Earth Sciences, University of Hyderabad, India, (Dissertation).
- Ms. Arpita Panda, Int. M.Sc. in Earth Sciences, University of Hyderabad, India, Internship.

2017

- Mr. Bijit Kalita, M.Sc. in Earth Sciences, University of Hyderabad, India, Internship .

PAST STUDENTS

- Mr. Supriyo Ghosh, JRF (January, 2022 –December, 2022). Now working at Barcelona Super-computing Centre, Spain.

RECOGNIZED PHD GUIDE

- Department of Marine Sciences, Bharathidasan University, Tiruchipalli, Tamil Nadu.
- School of Earth, Ocean and Atmospheric Sciences, Goa University.

PHD STUDENTS

- MS. Anirjita Das, NCPOR, MoES. (Guide)
- MS. Aswathi Das, NCPOR, MoES. (Co-Guide)

- Mr. Soumyadeep Dutta, NCPOR, MoES. (Co-Guide)

Updated on August 29, 2024