

Curriculum vitae

Dr. K. Gurumoorthi M.Sc., M.Phil., PhD

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Date of Birth : 28 July 1987

Gender : Male

Marital status : Married

Languages known : English and Tamil

Educational qualifications

Degree	Subject	Institution	Pass out year	% of marks
Ph.D	Ocean Science and Technology	Annamalai University	2018	NA
M.Phil	Ocean Science and Technology	Annamalai University	2012	76
M.Sc (Five years integrated)	Ocean Science and Technology	Annamalai University	2010	64
HSC	Science	State Board	2005	52
SSLC	Science	State Board	2003	64

Title of PhD Thesis

Hypothetical oil spill trajectory modelling along southern tip of India.

Field of Research Interests and expertise

Hydrography: Nearshore/Offshore data collection.

Numerical modelling: Flow modelling, wave modelling, Oil spill trajectory and weathering model and Particle track model for plastic debris.

Numerical modelling skills

- DHI MIKE: Sound knowledge in DHI MIKE Hydrodynamic modelling, Oil spill modelling, particle track modelling, wave modelling and other tools.
- Delft-3D: Good knowledge in 2D/3D flow modeling.

- GNOME: Well experienced in Gnome (General NOAA Operational Modeling Environment) and ADIOS for oil spill modelling and weathering processes.

Work experience

Employer	Designation	Year	Salary (INR)
Indian Institute of Technology Madras (IITM)	Senior Project Officer	01.10.2020 to 31.05.2021	52,000/-
CSIR-National Institute of Oceanography, Goa	Project Associate- II	12.10.2015 to 30.09.2020	35,000/- + HRA

Research experiences

- Setting up of Delft3D flow model.
- DHI Mike is used for flow model to simulate the surface current along Kanyakumari coast. Kanyakumari coast is dominated by tides and surface currents flow, which are influenced by the seasonal reversal wind pattern. The captured small scale cyclonic and anti-cyclonic eddies due to the influence of wind force.
- I have done Oil spill model using NOAA-GNOME model ADIOS estimation of weathering processes.
- The detailed studies on Petroleum hydrocarbons and heavy metals in surface sediments samples were studied along Kanyakumari coast, India.

Cruise experiences

- Onboard cruise experience in research vessel MGS SAGAR (MSG- 25/26) under deep sea exploration program (Hydrothermal) in the Southern Ocean to carry out various hydrographic and oceanographic operations including XBT/XCTD data collection from March- June 2019.
- Onboard cruise experience on research vessel SAGAR SAMPADA (SS-382) along west coast of India for CTD, XBT/XCT data collection, water and sediment sample collection.

- Monthly data collection started from October 2015 to till date, the cruise program being conducted from Chennai- Port Blair- Kolkata on board “MV Swaraaj Dweep, MV Nancowry, MV Nicobar, MV Harshavardhana and MV Cambel Bay” for collecting the Expendable Bathythermograph (XBT) and Expendable Conductivity, Temperature, Depth (XCTD) data.

Operation of various oceanographic instruments

- Bathymetry survey using Single Beam Echosounder,
- RTK GPS survey,
- CTD (Conductivity, Temperature, Depth) operations,
- XBT (Expendable Bathythermograph),
- XCTD (Expendable Conductivity, Temperature, Depth),
- MIDAS tide gauge,
- MIDAS Directional Wave Recorder (DWR),
- Aanderaa Recording Current Meter (RCM),
- Young Autonomous Weather Station (AWS),
- Sea water and sediments sample collection.

Courses taught

Physical Oceanography – Practical class session, M.Sc., (Ocean Science and Technology), Annamalai University (2013-2015).

Training programs

- 1) Training program on “oil spill modeling and sensitivity mapping” Organized by Ministry of Earth Sciences, ICMAM- Chennai during 14- 16 February 2012.
- 2) Training program on “Ocean state forecast services” organized by International Training Centre for Operational Oceanography (ITCOcean), INCOIS, Hyderabad during 26- 27 November 2014.

List of publications in peer reviewed journals

- 1) K.Gurumoorthi, V.Suneel, V.Trinadha Rao, Antony P. Thomas, M.J.Alex., 2021. Fate of MV Wakashio oil spill off Mauritius coast through modelling and remote sensing observations: Marine Pollution Bulletin 172, 112892.
- 2) Veerasingam, S., Ranjani, M. Venkatachalapathy, R., Bagaev, A., Mukhanov, V., Litvinyuk, D Mugilarasan, M., Gurumoorthi, K., Gunganathan, L., Aboobacker, V. M., and Vethamony, P., 2020. Contributions of Fourier transform infrared spectroscopy in microplastic pollution research: A review. Critical Reviews In Environmental Science and Technology. <https://doi.org/10.1080/10643389.2020.1807450>
- 3) Vasimalla, S., Alex, M. J., Thomas, A. P., Gurumoorthi, K., Rao, V. T., Harikrishnan, S., et al. (2020). Impact of remote equatorial winds and local mesoscale eddies on the existence of “River in the Sea” along the East coast of India inferred from satellite SMAP. Journal of Geophysical Research: Oceans, 125, e2020JC016866. <https://doi.org/10.1029/2020JC016866>
- 4) Gurumoorthi, K and Venkatachalapathy, R., 2017. Hydrodynamic modelling along the southern tip of India: A special emphasis on Kanyakumari coast. Journal of Ocean engineering and Science, 2, 229- 244.
- 5) Gurumoorthi, K and Venkatachalapathy, R., 2017. Spatial distribution and seasonal trends of petroleum hydrocarbons along Kanyakumari coast, Bay of Bengal, India. Arabian Journal of Science and Engineering, 42, 2479–2486.
- 6) Mugilarasan, M., Venkatachalapathy, R., Sharmila, N and Gurumoorthi, K., 2017. Occurrence of microplastic resin pellets from Chennai and Tinnakkara Island: Towards the establishment of background level for plastic pollution. Indian Journal of Geo Marine Sciences 46(6), 1210-1212.
- 7) Gurumoorthi, K and Venkatachalapathy, R (2016). Spatial and seasonal trend of trace metals and ecological risk assessment along Kanyakumari coastal sediments, southern India. Journal of Pollution 2(3), 269- 287.
- 8) Sharmila, N., Venkatachalapathy, R., Kankara, R.S., Mugilarasan, M., and Gurumoorthi, K., 2015. Wave charecteristics of Kakinada coast during south-west and north-east monsoon: statistical and spectral approach. International Journal of Oceanography and Marine Ecology System, 4(1), 16- 30.
- 9) Gurumoorthi, K., Venkatachalapathy, R., Mohan, K and Mugilarasan, M., 2015. Observed tidal characteristics along the near shore coast off Kanyakumari, southeast coast of India. International Journal of earth Sciences and Engineering, 08(02), 512-518.

Publication in conference proceedings

Gurumoorthi, K., Babu M.T., Sudheesh K., Trinadha Rao V., Vethamony P., 2017.

Assessment of “MT Dawn oil spill trajectory simulation along Chennai coast, India: Application to clean sea 2017” presented in the OSICON 17 held at Thiruvananthapuram on 28- 30 August 2017.

List of Referees

1. Prof. Sannasiraj

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3. Dr. Suneel Vasimalla

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Declaration

I hereby declare that all the statements made here are true, complete and correct to the best of my knowledge and belief.



(K. GURUMOORTHY)