

Dr. Arya Paul



Dr. Arya Paul has developed an ocean data assimilation system for the operational configuration of Regional Ocean Modelling System (ROMS) at INCOIS. LETKF-ROMS in INCOIS assimilates in-situ temperature and salinity and satellite track data of sea surface temperature. This assimilation system was completely developed in-house by Dr. Arya Paul and his team of two scientists. Dr. Arya and the team has devised a new innovative approach to arrest the collapse of the ensemble spread (or filter divergence) which is important for a sustained improvement in ocean state analysis. Dr

Arya and his team has also developed an innovative scheme to prescribe flow dependent observation error covariance, which ensures that the spatio-temporal variability observed in the representative errors (RE) in observations are fed into the assimilation system. This is the first time an ocean data assimilation system has been developed in India which can be directly used in operational oceanography. With the introduction of this data assimilation system in the operational ocean forecast system, INCOIS has placed itself in an elite class of a few countries which have the capability and infrastructure to make operational ocean predictions based on data assimilated numerical ocean circulation models. INCOIS is now operationally generating Regional Analysis for Indian Ocean (RAIN) using the newly developed LETKF-ROMS configuration.

Other works of Dr Paul the significant basin-wide barotropic sea level variability in the tropical Indian Ocean during December–April forced by a small patch of wind over the Eastern Indian Ocean, associated with Madden–Julian Oscillations (MJO), the development and operational configuration of Search and Rescue Aid Tool (SARAT), the effect of data on ocean re-analysis, etc. He has published several papers in peer reviewed national and international journals including the Nature Communication.

Dr. Arya Paul is awarded the Certificate of Merit for this outstanding contribution in the field of Ocean Science and Technology.

Shri A.A. Gnanaraj



Shri A. A. Gnanaraj is involved in development of Integrated Mining System protocols and associated systems and analysis of deep-water flexible riser system. Development of Remotely operated in-situ deep water soil tester (6000 m). Procurement of deployment system and equipment. Hyperbaric chamber maintenance and involved in pressure testing of sub-sea components/equipment's for all the groups at NIOT & other Govt. organisations. Design and realisation of pressure enclosures for 6000 m depth operation.