IIT's prediction of Fani

● **Express Features**

The faculty and research scientists of School of Earth Ocean and Climate Sciences, IIT Bhubaneswar had monitored and predicted the course of movement, intensity and associated storm surge of Extremely Severe Cyclone "FANI" with great degree of accuracy well in advance. Five days before its landfall, it had made the prediction with a state of the art meso-scale modelling systems. The model known as Hurricane Weather Research and Forecast model (HWRF) is customized specifically for cyclone forecast over Bay of Bengal and Arabian Sea in a close collaboration among Hurricane Research Division (HRD), National Oceanic and Atmospheric Administration (NOAA), U.S.A., India Meteorological Department (IMD), New Delhi, IIT Bhubaneswar and Indian National Centre for Oceanic Information System (INCOIS), Hyderabad.

The same model is being run concurrently at IMD, New Delhi on operational basis and IIT Bhubaneswar in R and D mode for real time prediction of cyclones with different source of initial conditions. The experimental products generated during the real time forecast of cyclones by IIT Bhubaneswar are disseminated to IMD, New Delhi for their operational use.

The research version of HWRF has been ran at 3 km horizontal resolution with moving nested setup during the course of FANI to predict the track, intensity and landfall with higher accuracy. The operational team of IMD is led by M. Mohapatra, additional director general of meteorology and head services, IMD and the research team at IIT Bhubaneswar is led by U C Mohanty and Sandeep Pattnaik.

The observations available from IIT Bhubaneswar observatory and ITER, SoA (deemed to be university) observatory are in good agreement with the model predicted movement of the FANI and its intensity. IIT observatory has recorded a maximum sustained wind of 169 km/hr with gust factor of about ±20 km/hr. In agreement with model, the campus received very heavy rainfall about 16 cm on the day of landfall.