TAPAN MISRA
DIRECTOR / OUTSTANDING SCIENTIST

He was born in 1961 in Raigada, Orissa, India. He has graduated in Electronics and Telecommunication Engineering from Jadavpur University, Calcutta in 1984. He was awarded prestigious Sir J C Bose National Talent Search (JBNSTS) Scholarship in 1981.

Since 1984, he is involved in development of Microwave Remote Sensing payloads in Space Applications Centre (SAC-ISRO), Ahmedabad. He began his career as digital hardware engineer responsible for development of Quick Look Display system of X-band SLAR.

He was lead member of the team which designed and developed C-band Airborne SAR (ASAR), implementing full motion compensation. He developed FFT based Real Time Sub-aperture (FFT-RTS) algorithm for real time processing of SAR during his tenure as Guest Scientist in German Aerospace Agency (DLR) in 1990.

During 1995-1999, as Project Manager for system engineering of Multi-frequency Scanning Microwave Radiometer (MSMR) payload for IRS-P4, he contributed mainly in the field of system design, simulation, integration, checkout and ground calibration for MSMR payload. He was also responsible for development of cryogenic blackbody targets for ground characterisation of MSMR payload. He led the team which developed a multi-resolution, multi-swath airborne SAR system called DMSAR (SAR for Disaster Management) in 2005-2006. He also invented the algorithm called track steering algorithm for high resolution processing of DMSAR. He also led the development of Scatterometer payload for Oceansat-2 which was launched in 2009 and providing valuable wind vector data to global meteorological community.

He is the lead designer for development of C-band SAR Payload based on active antenna concept. His leadership has resulted in partnership with Indian Industry in developing critical technology elements needed for RISAT like MMICs, TR modules, miniaturised pulsed power supplies and ASIC based TR controllers. This partnership has important element of qualification of processes and personnel for production of Space Grade Electronics apart from industrial development and production. Presently this payload has been launched in 2012.

He is responsible for system design, planning and development of all Microwave Remote Sensing Payloads of ISRO. He is also heading the Office of Innovations Management of ISRO at ISRO Headquarter, Bangalore.

As Deputy Director, responsible for of Microwave Remote Sensors Area, he led the team to develop futuristic remote sensing systems like DBF based S-band SAR for NI-SAR, L-band SAR, very agile high resolution X-band SAR, mm- Wave sounders and advanced Scatterometer.

He was awarded Hari Om Ashram Prerit Vikram Sarabhai research Award in 2004 and ISRO Merit award in 2008 for his contribution of development of SAR technology. He was elected as Fellow of Indian National Academy of Engineering in 2007. He was elected Corresponding Member of International Academy of Astronautics in 2008. He has 2 granted patents, 6 pending patents, 5 copyrights and more than 25 papers to his credit.