

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Space Workforce Development - Problems Encountered and Resolutions (7)

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DEVELOPING THE HUMAN RESOURCES FOR SPACE SECTOR

**Abstract**

Indian Space Research Organisation has a road map with very many exciting programmes ahead like the development of advanced communication system, reusable launch vehicle, air breathing propulsion, interplanetary missions for MARS and VENUS and human space missions in the coming years. Next five years envisages 30 to 32 missions at the average of six missions per year. All these programmes demand development of cutting edge technologies. As on now ISRO is sourcing the bright human resources through open advertisement and recruitment. In spite of our best efforts we are unable to attract the bright talent from the premier academic Institutions. Presently all selected scientists and engineers are put through rigorous in house four and half months training programme before they are inducted into the system. Continuous efforts are on to impart training to middle and senior level scientists and engineers to hone their skills and make them competitive to face the challenges. In order to meet the long term demands of highly skilled human resources needed for the development of the advanced projects ISRO undertook a novel initiative of starting its own Institute called Indian Institute of Space Science and Technology (IIST) at Thiruvananthapuram. The main objective of the Institute is to create a centre of excellence in education in the area of advanced science and technology with specific focus to Space science and technology. Three important streams namely Avionics, Aerospace engineering and Applied Sciences have been selected based on the large demands of ISRO in these areas. The students are sourced through IIT entrance exam as per the agreement with IIT authorities. IIST presently provides undergraduate programme in these streams and has taken the initiative to start simultaneously the post graduate programmes in selected areas needed for ISRO's programmes. The intake level for these streams are decided such that it meets about 35 percent of the total requirement. It is also proposing to initiate the doctoral and the post doctoral fellowships in the niche areas in Space Science and Technology to cater to the sophisticated technological requirements of ISRO. The curriculum for the entire program for all the three streams have been generated with the participation of eminent academicians from premier Institutions and it has been carefully structured taking into account the requirements of technologies needed for the programmes of ISRO while keeping the generic requirement of science and engineering intact. The Institute has aims to seamlessly integrate the high end research with academics. Towards this the institute has initiated the development of a full-fledged infrastructure of international standards to create an excellent academic and research atmosphere. It will also make best use of R & D infrastructure of ISRO Centres to train the young mind in high technology areas. The students of this Institute have to serve ISRO for minimum of five years subject to meeting the minimum standards specified by ISRO. This initiative of IIST and the close interaction of faculties and students with ISRO laboratories and programmes on a continuous basis will certainly meet the long term demands of high caliber human resources to fulfill the dreams of the Organisation.