

RESPOND (Research Sponsored) Programme - ISRO

ISRO started the RESPOND (Research Sponsored) programme in the 1970s, with the objective of encouraging academia to participate and contribute to various Space-related research activities. Under RESPOND, projects are taken up by Universities/Academic Institutions in the areas of relevance to the Space Programme.

In April 2021, the Indian Space Research Organisation (ISRO) announced that it will support eight joint research projects mooted by the Space Technology Cell (STC), IIT-Delhi.

The Space Technology Cell was set up at IIT, Delhi under an MoU signed between the ISRO and IIT-D in November 2019 with an aim to strengthen the research collaboration between the two organisations.

About ISRO's RESPOND

- The programme was started in the 1970s
- Under the Programme, ISRO provides financial support for conducting research and development activities related to Space Science, Space Technology and Space Applications in Academic Institutions in India
- ISRO helps these institutions to establish the necessary technical facilities and also provide fellowships to researchers to work on cutting edge research topics
- RESPOND is also participating in National Missions like IMPRINT (IMPacting Research INnovation and Technology) programme and Uchhatar Avishkar Yojana (UAY)

What is the Space Technology Cell?

ISRO has also set up Space Technology Cells at premier institutions like Indian Institutes of Technology (IITs) - Bombay, Kanpur, Kharagpur, Madras, Roorkee, Guwahati and Delhi; Indian Institute of Science (IISc), Bangalore and Joint Research Programme (JRP) with Savitribai Phule Pune University (SPPU) to carry out research activities in the areas of space technology and applications.

What is the objective of ISRO's RESPOND Programme?

The main objectives of the RESPOND Programme are to establish strong links with premier academic institutions in the country to carry out research and developmental projects which are of relevance to Space and derive useful outputs of such R&D to support ISRO programmes.

It aims to enhance the academic base, generate quality human resources and infrastructure at the academic institutes to support the Indian Space programme.

What are RESPOND Projects?

The research proposals received from academia for consideration under RESPOND are accepted for taking up research along with appropriate technical and financial support, only after a thorough review of proposals.

Projects and Institutions supported under the RESPOND Programme as of September 2020:

- **Number of Projects Ongoing: 214**
 - Space Science: 23
 - Space Technology: 145
 - Space Applications: 46
- **Academic Institutions supported under the Projects: 117**
 - Universities and Colleges: 79
 - IITs/NITs: 31
 - Other Institutions: 7
- **Space Technology Cells at:**
 - IITs (Bombay, Kanpur, Kharagpur, Madras, Roorkee, Guwahati and Delhi): 7
 - IISc Bangalore: 1
 - Joint Research Programme at SP Pune University: 1
- **Conferences/Workshops supported during 2019-20: 39**

What are the supported areas of Research under RESPOND?

Research proposals are Supported by ISRO in the areas of relevance to the space programme. Some of the broad areas are mentioned below:

- **Space Science:** Physics of the ionosphere and magnetosphere; meteorology, dynamics of the atmosphere; geophysics, geology; astronomy; cosmology; astrophysics; planetary and interplanetary space physics and climatology.
- **Space technology:** Rocket and satellite technology; propulsion systems design and optimization; aerodynamics and heat transfer problems related to space vehicles; guidance and control systems for launch vehicles and spacecraft; polymer chemistry, propellant technology; ultra-light-weight structure; satellite energy systems; space electronics, Space communication systems; orbital mechanics, computer sciences and new material development.
- **Space Application:** Remote sensing of the earth's resources: space communication; satellite geodesy image processing, satellite meteorology including weather forecasting, Space Education and Ecology.