

Board Of Research In Fusion Science & Technology



BRFST was set up at the Institute For Plasma Research (IPR) in April 2008 with the vision for formulating and implementing a number of strategies for a long-term programme aimed at developing indigenous competence in all aspects of Fusion Science & Technology in India. It is multi-disciplinary, multi-institutional in character and requires expertise from a verity of fields, ranging from frontiers of fundamental science to sophisticated technologies. The objective of the broad programme would be to develop a strongly interacting community of fusion scientists & technologists. The BRFST was set up to promote this broader scope of activities and to establish linkages with all major academic / research institutions and industry.

The main charter of BRFST being ;

- Oversee all the activities discussed above to ensure wide publicity to the programme and promote participation from all academic /national research institutes and the industry.
- Organize workshops, specialists meetings and talk circuits to discuss topical areas and promote nucleation of research programmes.
- Administer the selection of research proposals, disbursement of funds and review of their progress.
- Organize and support symposia on topics of relevance and interest to fusion, plasma physics and other associated areas of science & technology.
- Co-ordinate human resource development through setting up extension programmes involving students from IIT's, NIT's and other educational institutions in collaboration with Institute For Plasma Research.

BRFST Supports

- Funding of R&D projects in areas related to fusion science & technology to academic as well as industrial establishments.
- Funding of conferences, meetings, workshops in the area of fusion science & technology.
- Internships to masters students in science & technology to carry out their project work.

 <http://nfp.pssi.in> 

Broad Areas Of R&D Interest

Plasma Theory & Simulations

Advanced Material Technologies

First Wall Component Engineering

Cryogenic & Magnet technologies

RF & Microwave Technologies

Charged Particle Beam Technologies

Power Engineering Technologies

High Voltage Engineering

Advanced Data Acquisition & Control Engineering

TBM & Nuclear Technologies

For more details regarding these topics, please refer to the document entitled “NFP Research Opportunities” provided on the BRFST website.

Highlights (2007-2010)

- Since BRFST began functioning, more than 52 projects valued at a total of more than Rs.1,600 Lakhs have been sanctioned to both academic as well as industrial research collaborations in various areas of fusion science & technology.
- More than 22 academic institutions as well as R&D establishments in India have been collaborating with BRFST to undertake various R&D projects.
- More than 26 National/International meetings were partially sponsored by BRFST.
- More than 15 masters students have been recipients of the NFP internship programme.

- Fresh research proposals should be submitted as per format provided on the website to BRFST before May 30 or November 30 each year.
- Reviews will be conducted in August and February each year.
- Projects will be reviewed internally and then by the BRFST board. Sanction of the project will be subject to these reviews.

BRFST-Industry Collaboration

BRFST is the first funding agency in India to directly fund R&D collaborations from the Industry. This offers the industry the flexibility to carry out R&D work on essential areas in fusion science & technology with major spin-off possibilities. This also allows them to become part of a prestigious National R&D programme, i.e, the National Fusion Programme.

From August 2008 onwards, eleven projects were sanctioned to industrial establishments under the purview of the National Fusion Program of BRFST. A total amount of Rs. 96.64 Lakh was sanctioned for these projects.



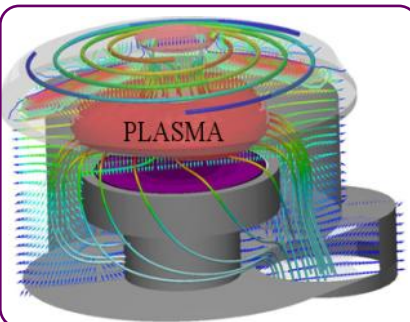
“Development of cryogenic radiation shield prototype panel” awarded to M/s I-Design Engineering solutions, Pune. This project involved design, manufacture and testing of cryogenic shield panels for tokamaks. Based on the work successfully developed and carried out in this project, M/s I-Design were able to procure contracts for similar jobs in competition with other national and international companies.



“Development of high speed mechanical switches as bypass for superconducting magnet or breakdown of wave shaping” awarded to M/s Megawin Switchgear, Salem, Tamilnadu.



“Development of a Microprocessor Controlled Special Purpose Solenoid Magnet Winding Machine” awarded to Patel's Analog & Digital Measurement Co. Pvt. Ltd, Pune



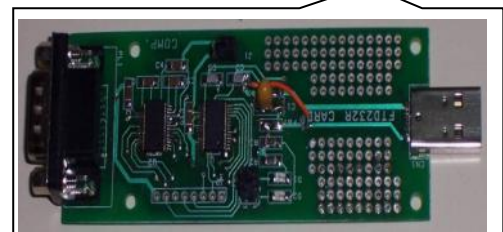
“Investigation on simulation of Plasma Torch for metal spray Applications using Multiphysics modules of ESI-group software” awarded to M/S ESI India Sales & Technical Branch Office, Bangalore.



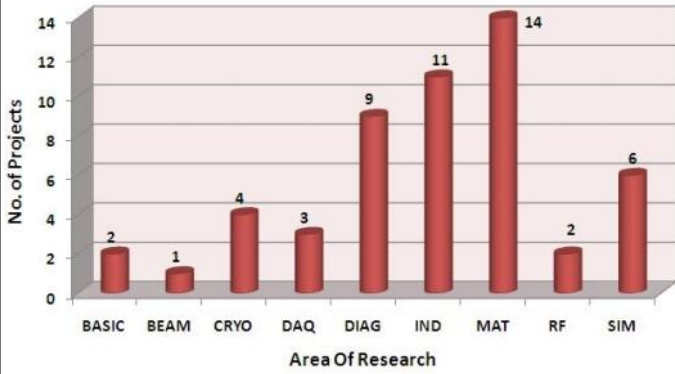
“Development of Laser welding Technique for dissimilar as well as similar materials in different forms” awarded to M/s Magod Laser, Bangalore.



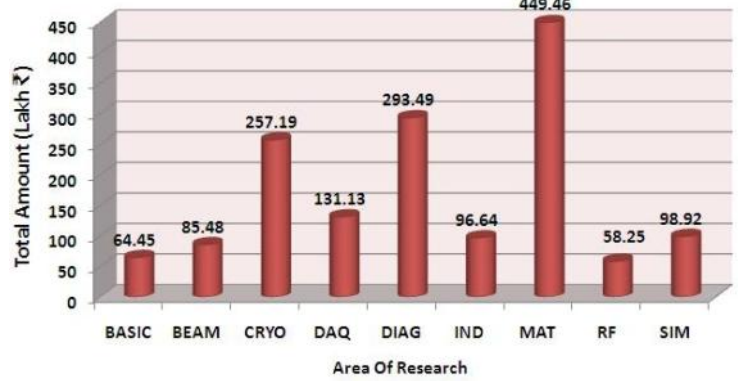
“Development of a Universal Interface Device (UID)”, awarded to M/s V B Tech Automation, Pvt. Ltd, Ahmedabad.



Aug 2007-Aug 2010



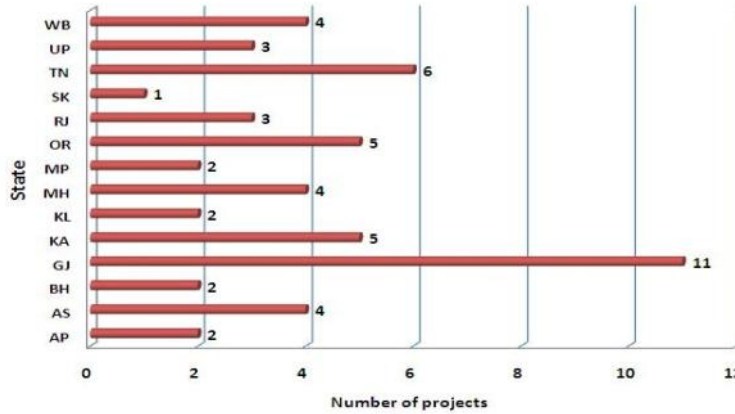
Aug 2007 - Aug 2010



Academic

IIT Madras
IIT Kanpur
IIT Kharagpur
NIT Rourkela
Guwahati University
IIT Guwahati
Univ. Of Mumbai
Univ. of Hyderabad
CUSAT, Cochin
S P Univ., Anand
PDPU, Gandhinagar
KITT University

Aug 2007-Aug 2010



Academic

NIT Rourkela
IMMT, Bhubhaneshwar
SMIT, Sikkim
BIT, Jaipur
BIT, Patna
NIIST, Trivandrum
BHU, Varanasi
DAIICT Gandhinagar
Rawenshaw Univ
IISc, Bangalore
NIT Surathkal

Industry Collaborators

Patel's Analog & Digital Measurement Co. Pvt. Ltd, Pune
Megawin Switchgear, Salem, TN
V. B. Tech Automation Pvt.Ltd, Ahmedabad
Magod Laser, Bangalore
I-DESIGN Engineering Solutions Ltd., Pune
HEG R&D Centre, Mandideep (M P)
ESI India Sales & Technical Branch Office, Bangalore
Sandeepani - School of VLSI Design, Bangalore
Anvi Electronic Systems Pvt. Ltd, Ahmedabad

For information on NFP R&D activities

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For information on NFP Internship

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