TECHNOLOGY BUSINESS INCUBATOR (TBI)

MRCET CAMPUS

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
(Autonomous Institution – UGC, Govt. of India)
Sponsored by CMR Educational Society
(Affiliated to JNTUH, Hyderabad, Approved by AICTE - Accredited by NAAC – „A" Grade - ISO 9001:2015
Certified) Maisammaguda, Dhulapally, Kompally, Secunderabad – 500100, Telangana State, India.
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MRCET R&D/TECHNOLOGY BUSINESS INCUBATOR CENTER

Research and Development is an integral part of the academic activities of Malla Reddy College of Engineering and Technology. MRCET R&D cell is one of the wings of the Institute which facilitates, channelizes, records, and regulates all the academic, sponsored, collaborative research projects and consultancy works in the Institute. In a world increasingly propelled by technology, academic research forms the mainspring of a nation's economic growth. MRCET R&D cell aspires to transform the lives of young budding engineers, research scholars and faculty through their innovative ideas to contribute for research at academic level. MRCET R&D cell is closely working with core industries to train the students in this direction. This objective will be very close to the heart of the industry in the direction of producing ready to be employed engineers. The key goal of the Institute is to provide a creative atmosphere in which higher studies and research thrive amongst the faculty and students. It also promotes and manages Institute-Industry interaction.

Research Objectives:
- To create zeal amongst faculty and students towards research and innovation.
- To create centres of Excellence in niche areas of research.
- To work closely with the industrial needs that eventually will result in new or improved products, processes, systems or services that can increase productivity of the industry.
- To foster collaborations for mutual benefits and to maximize Industry - Institute connectivity.
- To establish collaboration with other universities, public and private sectors and identify R&D projects including consultancy services which could be undertaken at the institution.
- To promote research in various departments of the Institute.
- To ensure smooth functioning and effective Management of R&D at the Institution.
- To organize and promote skill development trainings in emerging areas to enhance the employability skills of the students.
- To promote self employability skills by conducting various activities under Center for Innovation, Incubation and Entrepreneurship (CIIE).

Facilities:
- ✓ Systems with high speed internet
- ✓ Library with digital access
- ✓ Conferences, Seminars and skill development trainings.
- ✓ Center for excellence in Robotics and Mechatronics.

- ✓ Center for Innovation, Incubation and Entrepreneurship.
- ✓ SIRO recognized research center.
- ✓ MSME recognized Business Incubator.
- ✓ State of the art laboratories with computerized equipments.
- ✓ Well qualified faculty.

The Research and Development Cell of the College is working on the following research disciplines:
- ➢ Aeronautical and Aero space Engineering
- ➢ Computer Science and Engineering
- ➢ Electronics & Communication Engineering
- ➢ Electrical and Electronics Engineering
- ➢ Information Technology
- ➢ Mechanical Engineering
- ➢ Science & Humanities
- ➢ Business Administration
- ➢ Multi-Disciplinary and Inter-Disciplinary areas

Functions of Research and Development Cell:
- To create awareness and opportunities in Research and Development among the students & faculty and to create Research and Development atmosphere in every department
- To create interest and atmosphere among the staff members to take up Research projects and improve their knowledge, skills and qualifications by registering Ph. D's
- To motivate the faculty members of the group for R&D activities in the area of their specialization
- To encourage staff members and students to publish technical papers for publishing in National and reputed International Conferences/Journals
- To encourage faculty members of all the disciplines in Engineering/Science
- /Humanities/Management in R&D activities for their professional growth
- To undertake research activities and development projects offered by agencies such as ISRO, DRDO, CSIR, DST, AICTE, UGC, etc.
- To assist the students to apply funding for conducting research and startups under student project scheme to various funding agencies like MSME, IEI (I), DRDO, TCS, Infosys etc.
- To assist for applying and getting funds for conducting Seminar/Workshop/FDP from various funding agencies
- To facilitate the growth of research activity among the academic community, including developing mechanisms and targets to achieve this
- To develop and coordinate strategies for maximizing the faculty's success in gaining external research funding;
- To maintain and disseminate current information about relevant research policy areas and initiatives in government, in the professions and in relevant industries, including external funding opportunities
- To develop strategies to foster research collaborations within the faculty, across faculty and institutes, and with agencies outside the college
- To work with various departments to establish and develop faculty research priorities on interdisciplinary areas

- To interact with industry, government, professions and the wider community on all research matters promote faculty research activities to external stakeholders
- To coordinate faculty level workshops and staff development activities on Research-related issues
- To encourage development of activities to attract the best research oriented higher degree students
- To maintain effective links with government departments, authorities, business, and commerce and industry organizations relevant to the college research activities

In order to promote research and development activities, the college extends its full support to students/faculty/staff. Full/Partial financial support is given to all innovative research & development works taken up by the students, faculty and staff members. The college encourages students, faculty and staff to participate in National/International Conferences, Training programmes, Tech-Festivals organized by reputed institutes (IITs/NITs/State Engg. Colleges etc.) by giving full/partial financial support viz. course/registration fee, TA/DA etc.

START - UPS

S. No	Name of the Start-ups
1	Flapping Wing Drones
2	Fabrication of Smart Gas Sensors using RF PlasmaProcessing
3	Safe2go
4	Design and Development of Thermo ElectricRefrigerator
5	Generation Of Electricity Through Artificial Nano Trees
6	Design and Development of Hybrid Jet Engine (Prototype) for the application of UAV Propulsion
7	Hybrid Cart
8	Wood polymer Nano composites for structuralapplications
9	Universal Gateway for IOT enabled BMS
10	Smart BP Monitor using Image Processing
11	Affordable solar mobile charger cum lamp
12	Segway- A self-balancing robot
13	Bio diesel production using nano catalyst
14	Heat transfer enhancement through nano –fluids
15	Improvised explosive device deposit robot
16	Cluiditis-Smart door Lock
17	EES-Easy emergency services

PROJECTS/CONSULTANCY

S. No	Scheme/Project Title	Funding Agency
1	Research Promotion Scheme	AICTE, New Delhi
2	Industrial institute partnership cell (IIPC)	AICTE, New Delhi
3	Research Promotion Scheme	AICTE, New Delhi
4	Research Promotion Scheme	AICTE, New Delhi
5	Research Promotion Scheme	AICTE, New Delhi
6	Research Promotion Scheme	AICTE, New Delhi
7	Seminar Grant	AICTE, New Delhi
8	Research Promotion Scheme	AICTE, New Delhi
9	MODROBS	AICTE, New Delhi
10	GOC-Grand for Organizing Conference	AICTE, New Delhi
11	Faculty Development Program	AICTE, New Delhi
12	A Novel Approach on Low Power Memory Design using 7 nm FinFET Technology	CSIR, New Delhi
13	Research Promotion Scheme/ National Seminar on Big Data Analytics And IOT for Healthcare Applications	Indian Council of Medical Research (ICMR)
14	Synthesis and characterization of NANO composites as anti-reflection coatings on mc-Si Solar Cell for Enhanced Conversion efficiency	DST
15	Evolution of energy efficient Photovoltaic Device using Nano structures	DST
16	DST-SERB (TARE) To study the influence of characterization of shape memory alloy	DST
17	CFD code development for gas turbine guide vanes and its aerodynamic profile analysis	Turbo Engineering Services
18	ITC-PRO ENVIRO-Market Research-2013	Sikh Road, Bowenpally, Secunderabad
19	Characterization of shape memory alloys (Ni-Ti based)	Vsky Aerospace Technologies
20	Online Exam portal-Knowledge.com	Web Cognize Softech
21	Medical Image Processing	Narayana Hrudayalaya Hospitals
22	On-Chip Voice Controlled Interactive Enquiry System	Embedded RF Technologies
23	ASIC & FPGA	Pantech Technologies

24	Robotics	Robot Space Automation Pvt Ltd
25	App Development for Startups	Competent Hands Technologies
26	Education Biometric System	Delisis Informatics Pvt Ltd
27	App Development for online training	Web Cognize Softech
28	Automation of Fermentor for Vaccine Manufacturing	SRIPL, HYD
29	Automation of Packing Process in Rural Establishments	Sri Techno Engineers, Hyd
30	Development of Highly Entropy Alloys using 3D printing Technology	Sai Balaji Engineering Works
31	Design and CFD analysis of Wind Turbine	Winwill Technologies
32	Design and analysis of baby warming unit	Industrial Electrical and Controls

LIST OF PATENTS

S. No	Title of Patent	Patent No.	Date	Department
1	Automated food freshness detection using feature deeplearning	2020100953	05/06/2020	CSE
2	An automated digital internet of things based insulin injecting pen with dual cartridge	202041002044A	24/01/2020	CSE
3	A system and method of biometric identification based on distributed internet of things lock and unlocking thereof	201941028900A	09/08/2019	CSE
4	Artificial Intelligence Enabled Fertilizer Dispensation System For Better Yield Of Crops	201841015755A	04/05/2018	ECE
5	Image Segmentation For MRI Based Brain Tumor Detection Using Clustering Techniques	201841015510A	04/05/2018	CSE
6	Synthesis And Characterization of Hybrid Ni-Sio2 Nano particles In Water-Glycerin Base Liquids For Heat Transfer Applications	201841015551A	04/05/2018	MECH
7	An Automated System For Assisting Person of Medical Needs	201841015460A	27/04/2018	IT

MOU's Exclusively Under R&D/TBI

- MoU with NRDC, Department of Scientific and Industrial Research (DSIR), Govt. of India.
- MoU with Business Incubation Centre – MSME, Govt. of India.
- MoU with National Aerospace Laboratories (NAL), Bangalore.
- MoU with ESOL Examinations (BEC) University of Cambridge, UK.
- MoU with Zensar Technologies for the Technology Transfer.
- MoU with Mahindra & Mahindra
- MoU with Tech Mahindra
- MoU with Lincoln University, Malaysia
- MoU with University Malaysia Sarawak (UNIMAS) – Malaysia

Exchange of MoU-NRDC Vs MRCET,HYD , Dated on 17th November2018 at NIT, Warangal.

MRCET faculty members visit to MSME Technology Centre (CITD), Dated on 12th November, 2018.

Conducted one day Expert Talk on "Innovation and Incubation – Opportunities and Challenges" by Dr. H. Purushotham is the Chairman & Managing Director of National Research Development Corporation (NRDC) an Enterprise of Department of Scientific and Industrial Research(DSIR), dated on 1st September 2018.