

RESEARCH BROCHURE

**HINDUSTAN
UNIVERSITY**

HINDUSTAN INSTITUTE OF TECHNOLOGY & SCIENCE



OUR FOUNDER



Late Dr. K. C. G. Verghese
(20th June 1940 - 14th February 2006)

**“To Make Every Man a Success
and No Man a Failure.”**

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VISION, MISSION, QUALITY



**HINDUSTAN
UNIVERSITY**
HINDUSTAN INSTITUTE OF TECHNOLOGY & SCIENCE



VISION

To Make Every Man a Success
and No Man a Failure

MISSION

To provide every individual with a conducive environment suitable to achieve his/her career goals, with a strong emphasis on personality development and offer resources to the academically inclined to gain quality education in all the spheres of Engineering, Applied Sciences and Management, without compromising on the quality and code of ethics.

QUALITY

- To train our students with the latest and the best in the rapidly changing fields of Engineering, Technology, Management, Science & Humanities.
- To develop our students with a global outlook possessing state of the art skills, capable of taking challenging responsibilities.
- To mould our students with moral, ethical and social values so as to fulfil their obligations to the nation and the society.
- To promote research in the field of Science, Humanities, Engineering, Technology and allied branches.

CHANCELLOR'S MESSAGE



Dr. Elizabeth Verghese

Advances in scientific and technological research will have a significant impact on our Nation's future. India can boast of giving the concept of University system to the world by establishing universities like Nalanda and Takshashila - Citadels of Higher Education, centuries prior to the rest of the nations. The proof of our age old prowess in mathematics, science & technology in our country is evident from the words of the renowned scientist Albert Einstein who stated that **"We owe a lot to the Indian who taught us how to count, without which no worthwhile scientific discovery would have been made"**.

Research and innovation must go hand in hand and should be focused on solving our country's myriad problems. It is also important that industry and academia operate in tandem and create the right synergies and eco-system to promote industrial growth and academic rejuvenation.

Hindustan University is one of the premier institutions in the country focused on academic excellence with an emphasis on fundamental & applied research to become one of the top Research Universities in Asia.

The University established Centres of Excellence across all the departments. The Centres of Excellence provides state-of-the-art facilities with rich content and offers wide opportunities to the research scholars. Many faculty members are seriously engaged in scholarly activities and have brought out more than 2400 research publications in Journals and Conference Proceedings within a short span of 5 years. 36 Patents have been filed so far and 20 more are in the pipeline, an indication that the University is innovation driven. This brochure gives the necessary information about the various research programmes and admission details, which will be valuable to the prospective scholars.

I welcome all the Research Scholars to our vibrant and dynamic University, where the best can ideate, develop & disseminate and we also encourage organizations and research institutions across the globe to extend their support to widen our horizons and expand our scope of knowledge.

VICE-CHANCELLOR'S MESSAGE



Dr. S. Ramachandran

Hindustan Institute of Technology and Science (Hindustan University) has emerged as one of the top Institutions in India in the field of Engineering and Technology Education. The University has implemented choice based credit system and outcome based syllabus. The University aims to become one of the best Research Universities in the country. A number of Research Projects have been funded by various Government Funding Agencies such as Department of Science & Technology, Defence Research & Development Organisation (Naval Research Board), Ministry of New & Renewable Energy etc.

The University has established Centres of Research in emerging areas such as Clean Energy, Nanotechnology, Robotics & Automation, Cyber Security and Engineering Design & Simulation. A Central Instrumentation Facility has been established in CENCON with sophisticated Instruments for the benefits of the Faculty, Research Scholars and Students.

The University offers Fellowship for deserving scholars and aims to have more Full Time Research Scholars. During the past one year, our research activities have increased tremendously in terms of research publications, research funding and number of Ph.D. admissions. I am confident that all our efforts will increase the research contributions of our faculty and benefit the students, society and nation.

DIRECTOR (RESEARCH) MESSAGE



Dr. G. Ilavazhagan

RESEARCH ETHOS

Hindustan University has a mission to become one of the top research Universities by the end of this decade. The University's ethos is based upon a belief that every man has the ability to make a positive impact/difference to the world through free-thinking and hard work. Its research ethos reflects a continuing commitment to academic research, creativity and innovation, responsibility and excellence. Hindustan University is committed to research of both Engineering & Technology and Science, undertaken through focused research centres and strong industry networks and partnerships.

In the journey of academic excellence, Hindustan University will encourage research, scholarship and creative work in its chosen disciplines. We will recognize and reward outstanding achievement. We will build our overall research capability by

- recognizing and rewarding high-quality research in all disciplines
- ensuring all staffs are research active and hold doctoral or relevant professional qualifications
- promoting collaboration with national and international Institutions for carrying out innovative research in cutting edge technologies
- transferring the technology developed aiming at improving economic status of the country, social well-being and sustainable development regionally, nationally and internationally
- measuring research excellence, relevance and accessibility through regular, systematic benchmarking against international standards, and through increasing the number of formal international qualification accreditations to enhance student opportunities for both employment and further study
- maintaining strong partnerships with National and International Institutions, R & D Organisations, and Industries
- enhancing the growth of external research funding from government, industry and international sources
- ensuring all research is conducted in accordance with the University's ethical standards and
- promoting research supported by access to up-to-date library collections, services, and information networks.

THE UNIVERSITY



Hindustan University, a leading private University in Chennai completed 29 years of dedicated service to the Nation. We are conducting 51 U.G., 58 P.G Programmes in Engineering, Technology, Management and Architecture including Ph.D., M.S. (By Research) and M.Phil. courses in several disciplines. The University is a part of the most reputed Hindustan Group of Institutions which includes other Institutions such as KCG College of Technology, Hindustan Arts and Science College, National Institute of Management Studies, Orient Flight School and Hindustan Institute of Engineering and Technology. This illustrious group is catering to the academic needs of 15,000 students.

The late Founder Chairman, Dr. K. C. G. Verghese, a visionary par excellence realized his dream of evolving this citadel of learning for institutional excellence. His illustrious life, constantly inspired by his philosophy – “To Make Everyman a Success and No Man a Failure” enabled him to develop this great Institution catering vibrantly to the academic, professional and social needs of the society.

CENTRE FOR RESEARCH & CONSULTANCY



The Centre has evolved policies for Research, Consultancy and Intellectual Property. The primary objective of the CRC is:

1. Developing and nurturing international linkages
2. Organizing Colloquium and Training Programmes for Research Scholars
3. Fostering relationships with funding agencies & organisations.
4. To facilitate project proposal preparation and its operation
5. Support Short-term courses/Seminars/Workshops for effective dissemination of knowledge
6. Organizing Lectures by Scientists from various R&D Organizations
7. Establishing connectivity between faculty and scientists of various R&D Organizations and Industry
8. To improve the Institute-Industry interaction and provide need based technology to existing industries
9. Identifying and protecting intellectual property
10. Conduct Conferences - National and International
11. Ensure quality of research and its applications & relevance to society

ADMINISTRATION

BOARD OF RESEARCH

Dr. S. Ramachandran,
Vice Chancellor - Chairman

Dr. Rajneesh Shrivastav,
Director, NIT,
Hamirpur

Dr. V. Ramanujachari,
Outstanding Scientist & Director, RIC
(DRDO) & IITM Research Park.

Dr. G. Ilavazhagan,
Director (Research) – Convenor

Dr. N.Vasudevan,
Dean (Academics)

Dr. D.G. Roychowdhury,
Dean (Centre for Curriculum Design and
Development)

Dr. B.Venakatraman,
Dean (Mechanical Sciences)

Dr. M. J. S. Rangachar,
Dean (Electrical Sciences)

Dr. Angeline Prabhavathy,
Dean (Building Sciences)

Dr. Ravikumar Bharagava,
Dean (Architecture)

Dr. G. Srikanth,
Director, School of Management

Dr. N. Rajasekharan Nair,
Dean (Applied Sciences)

Dr. P. S. Raghavan,
Research Coordinator (Academic Research)

Dr. A. Anitha,
Research Coordinator (Generic Training)

Dr. N. Kavitha,
Research Coordinator (Funded Research)

Dr. Harris Samuel,
Research Coordinator (Consultancy)

RESEARCH ADVISORY BOARD

International

Dr. Borje Johansson,
Professor, (Chairman, Selection Committee
for Noble Prize for Physics), KTH, Sweden

Prof. Tae Won Kang,
Director QSRC, Dongguk University, South
Korea

Dr. Rajeev Ahuja
Professor, Dept. of Physics & Astronomy,
Uppsala University, Sweden

Dr. Venkat VSS Sastry
Professor & Head of Group Centre for
Simulation & Analytics, Cranfield University,
UK

Dr. Jonathan R. Searle
Professor & Head, Modelling and Simulation
Group, Cranfield University, UK

Dr. Kuriakose Athapilly
Professor of Computer Information Systems,
Western Michigan University, USA

Dr. Sabeer Husain
Sr. Scientist, Air Force Research Laboratory,
Dayton, USA

Dr. Ajith Abraham,
Director, Machine Intelligence Research
Laboratories, Washington, USA

National

Dr. M. Annadurai
Programme Director, ISAC, ISRO, Bangalore

Shri. S. A. V. Satya Murty
Director, Electronics, Instrumentation &
Radiological Safety Group, IGCAR,
Kalpakkam

Dr. K. Tamilmani
Director General (Aero), DRDO, Bangalore

Dr. S. Santhakumar
Professor, IIT-Madras

Dr. Sarit Kumar Das
Dean (Academic Research), IIT-Madras

Dr. S. K. Satheesh
Professor, Centre for Atmospheric &
Oceanic Sciences, IISc, Bangalore

Dr. W. Selvamurthy
Life Sciences Chair, Amity University,
NOIDA

Dr. K. Natarajan
Head, Wind Energy Initiatives, L & T

Dr. Xavier Chelladurai
Director, HCL Technologies, Chennai

ABOUT RESEARCH PROGRAMME

Ph.D. Disciplines

Aeronautical Engineering
Automobile Engineering
Architecture
Chemical Engineering
Polymer Technology
Electrical and Electronics Engineering
Electronics and Communication Engineering
Electronics and Instrumentation Engineering
Computer Science Engineering
Civil Engineering
Information Technology
Mechanical Engineering
Business Administration
Nano Technology
Defense Technology
Computer Applications
Languages
Mathematics
Physics
Chemistry
Library Sciences
Physical Education

M.S. (By Research)

Aeronautical Engineering
Automobile Engineering
Architecture
Chemical Engineering
Polymer Technology
Electrical and Electronics Engineering
Electronics and Communication Engineering
Electronics and Instrumentation Engineering
Computer Science Engineering
Civil Engineering
Information Technology
Mechanical Engineering
Business Administration
Nano Technology
Defence Technology

M.Phil

Computer Applications
Languages
Mathematics
Physics
Chemistry
Library Sciences
Physical Education

The faculty and research scholars of Engineering, Science, Humanities and Management engage in emerging research areas, resulting in acclaimed publications in International, National journals and patents. Most of the research work is also presented in International and National Conferences.

RESEARCH COMPETENCY

SCHOOL OF AERONAUTICAL SCIENCES AERONAUTICAL SCIENCES

Aircraft Structures
CFD
Composite Materials
Finite element methods
Fluid Mechanics
Hot wire Anemometry
Low speed aerodynamics
Noncircular Coaxial jets
Non-destructive testing
Shock and vibration
Composite Structures
Turbulence flow structures

SCHOOL OF BUILDING SCIENCES ARCHITECTURE

Climatic design of built environment
Energy efficient
Environmental friendly design of built environment
Urban planning

CIVIL ENGINEERING

Cold-formed Steel Structures
Composite Structures
Computer Aided Design of Concrete
Concrete Structures
Dynamic of Structures
Earthquake Engineering
Indoor Air Quality modelling
Irrigation and Water Management
Marine Biology
Non-conventional energy
Ocean Sciences
Solid waste management
Structural Engineering
Waste water treatment

ENVIRONMENTAL ENGINEERING

Industrial Waste Water Treatment
Water and Air Quality Modelling /
Solid Waste Management

CENTRE FOR CLEAN ENERGY AND NANO COVERGENCE CENCON

Computational Condensed Matter
Physics
Luminescence Science
Quantum nanotechnology

SCHOOL OF COMPUTING SCIENCES COMPUTING SCIENCES

Algorithms
Big Data
Cloud Computing
Computer Algorithm
Computer Networks
Cryptography
Data Mining
Digital Image Processing
Fuzzy Metrics
Intelligent Systems
Machine Learning
Medical Data Mining
Natural Language Processing
Network Security
Soft Computing
Stochastic optimization
Video Analytics

SCHOOL OF ELECTRICAL SCIENCES ELECTRICAL & ELECTRONICS

Advance controls
Control Systems
Electrical Drives
Instrumentation
Nonlinear systems
Power Systems
Process Control
Real time Systems
Sensor Networks
Signal processing

ELECTRONICS AND COMMUNICATION

Communication Engineering
Communication System
Computer Network
Control Engineering Instrumentation
Cryptography
Electro Magnetic Provocation
Network Security
Software defined radio

ELECTRONICS AND INSTRUMENTATION

Adaptive Signal Processing and Control
Process control and applied
Instrumentation
Robotics and Embedded Systems

SCHOOL OF MANAGEMENT STUDIES MANAGEMENT STUDIES

Airport / Airline Management
Business Management
Dimension of Brand characterization
E-Commerce
Finance & Systems Entrepreneurship
Hospital consumer marketing
Human resource
Management Finance
Operation Management
Services Quality and values
Supply Chain Management

SCHOOL OF MECHANICAL SCIENCES AUTOMOBILE ENGINEERING

Aerodynamics
Alternate Fuels
Flow and Combustion Analysis
Internal Combustion Engines
Engines
Vibration Analysis

RESEARCH COMPETENCY

CHEMICAL ENGINEERING

Alternate Fuels, Catalysis
Catalysis
Ceramics
Composites
Environmental Biotechnology
Environmental engineering
Nano materials
Nanotechnology
Polymers

MECHANICAL ENGINEERING

Alternate Refrigeration
Computational Fluid Dynamics
Computer Aided Design (CAD/CAM)
Condition Monitoring
Energy Technology
Heat Exchanger
Heat Transfer
IC Engineering
Manufacturing
Material Science
Metallurgical Engineering
Nano composites (Polymer & Metal)
Nano Particle Synthesis and Nano Coating
Nuclear Safety Analysis
Refrigerating and Air-conditioning
Thermal Engineering
Tool Material analysis
Turbo Machines

SCHOOL OF SCIENCE AND HUMANITIES LANGUAGES

American Literature
English Language Teaching (ELT)
English Language
English Linguistics
Post Colonial Literature
Post Modern Literature
Recent Critical Theories

CHEMISTRY

Bio Nano Materials
Catalysis
Inorganic Chemistry
Polymer Chemistry
Specialty glasses
Synthetic Organic Chemistry

MATHEMATICS

Algebra
Applied Mathematics
Artificial neural networks
Complex Analysis
Control Theory (ODE)
Discrete Mathematics
Differential equations
Functional Analysis
Fuzzy Logic
Fuzzy Metric Spaces Sampling
Graph Theory
Number Theory
Operations Research
Partial Differential Equations
Real Analysis
Statistics
Stochastic Process

PHYSICS

Dielectric Studies
Holography
Laser And Non-linear Crystal Growth
Laser Physics
Material Science
Materials for Photonics
Nanomaterials Application Fibre Optics
Non-Destructive Testing
Optimal Material
Opto Electrics
Smart Materials
Spectroscopy
Ultrasonics

LIBRARY

Digital Library
User study biblio metrics
Scientometrics

INTERDISCIPLINARY RESEARCH

Nano Technology
Artificial Intelligence
Robotics and Automation
Mechatronics
Autotronics

RESEARCH CENTRES

RESEARCH AND DEVELOPMENT

CENTRE FOR CLEAN ENERGY AND NANO CONVERGENCE



ESTD
2011

The Centre for Clean Energy and Nano Convergence Centre, (CENCON) was established in collaboration with QSRC, Dongguk University, Korea. The centre aims to work towards clean energy solutions incorporating the quintessence of Nanotechnology. CENCON is one of the members of the International Consortium on Nanotechnology along with KTH Sweden and Dongguk University Korea. The Centre strives to contribute to the Nation's growing need for sustainable energy. As the name goes, an environmental friendly green technology has been developed for the fabrication of nanomaterial's and the same is being explored for its various energy applications.

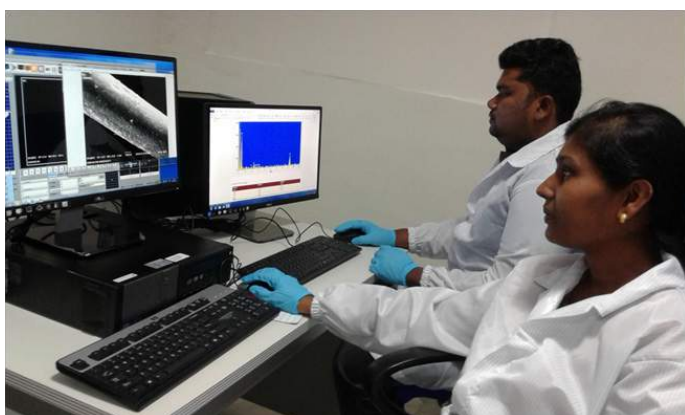
The Centre has collaborations with international institutes like Uppsala University, KTH Sweden, University of Nottingham, Dongguk University and national expertise from IIT Bombay, IIT Madras, Anna University. It is capable of synthesis and characterization of Nanomaterial for various applications like solar cells, lithium ion batteries, bio medical applications, luminescent devices, sensors, photo catalytic applications etc.



Inauguration of CENCON – 6th Jan 2011



International Conference 2013



Scanning Electron Microscope (SEM) with EDS



Thermal Vacuum Coating Unit

RESEARCH AND DEVELOPMENT

HIGHLIGHTS

- Environmental friendly green technology developed for fabrication of nanomaterials
- Indigenously synthesized green nanomaterials explored for energy conversion & storage through photovoltaics, portable power generators, water technology initiatives and bio-nano applications.
- Collaborative international Project entitled "Metal oxide based thin film solar panels" with QSRC, Dongguk University, South Korea – Exploring way to improve the Solar cell efficiency through green technologies.
- National Project entitled "Enhancement of photovoltaic efficiency by down conversion phosphors for underwater solar panels towards naval applications" Sponsored by Naval Research Board, DRDO, New Delhi –aimed towards improving the efficiency and lower the cost of the solar cell through up and down conversion phosphors.

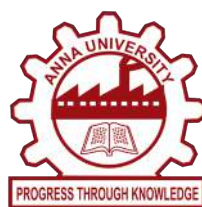
COURSES OFFERED

The Centre provides the M.Tech (Nanotechnology) course and is jointly conducted with Dongguk University, South Korea. This is a dual degree course on Science behind Nano devices and a venture into its future applications. The salient features of this course is Interactive video conferencing by Global experts, Webinars and Special lectures by Scientists from abroad, possible internship at Industries in Samsung & LG, South Korea in Nanotechnology, Physics, Chemistry and Materials Science, opportunities to carryout final year projects/research at prestigious Universities like Dongguk University, Uppsala University & KTH Royal Institute of Technology.

OPPORTUNITIES FOR EXCHANGE PROGRAMS ABROAD

Quantum Functional Semiconductor Research Centre (QSRC) of Dongguk University offers the National Research Fellowship (NRF) under which Faculty members, Research Scholars and students of CENCON have an opportunity to visit and use the lab facilities at QSRC at Dongguk University for a period of 6 months. So far 2 faculty members and 3 research scholars visited Dongguk University under this student and faculty exchange program. Each of them stayed for a period of 3 months to carry out their research activities.

PARTNERS



Contact: Dr. G. Ilavazhagan, Centre Head, Email: cencon@hindustanuniv.ac.in

RESEARCH AND DEVELOPMENT



CENTER FOR DEFENCE TECHNOLOGY STUDIES

INTRODUCTION

ESTD
2012

Indian Defence and security sectors currently face some of the biggest management and technological challenges witnessed in the past decade. The threat of global terrorism and the incidence of armed conflict have created a strong requirement for those operating within a defence and security context to keep abreast with the latest operational / technological developments. In fact, in the context of defence and security, technology dictates the tactics and the technology management decides the success of the any mission. There is, however, not only a lack of avenues for existing professionals in the defence technology domain to acquire basic professional skills in defence technology management, but also for young graduates to obtain these skills as entry level prerequisite qualifications. With this in mind, the Centre for Defence Technology Studies (CDTS) was established in Hindustan University as India's first private sector initiative for Defence Technology studies.

CDTS was inaugurated by His Excellency M. Francois Richier, Ambassador of France to India on 13th July 2012. In its effort to bring together the leading experts from the Defence Technology domain both from India and abroad, CDTS conducted the second International Conference, DEFED 2012, at Chennai on 23rd and 24th November 2012.

HIGHLIGHTS

- An MOU has been signed between Hindustan University and Cranfield University – the Defence Academy of the United Kingdom at Shrivenham to conduct PG Certification, Diploma, Masters Programs and short term courses in India for the public and private sector defence Industries as well as the Armed Forces.
- A Tripartite Agreement was also signed among Hindustan University, Cranfield University and world renowned Missile Systems Manufacturer, MBDA.
- Action initiated to pursue PG course on Cyber Security with an agreement between Hindustan University and Warwick University, UK and an Executive Management Course with Glyndwr University, UK.

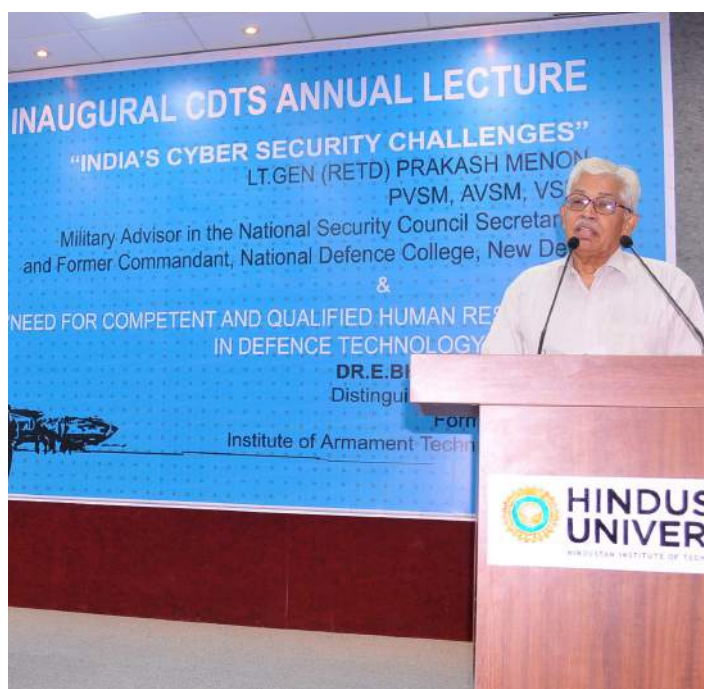


Centre for Defence Technology Studies [CDTS] was inaugurated at the campus by French Ambassador His Excellency Francois Richier in the presence of Chancellor Dr [Mrs] Elizabeth Verghese.



A Tripartite Cooperation Agreement was signed by (L-R) Dr Ian Wallace, Head, School of Defence & Security, Cranfield University, Dr. Anand Jacob Verghese, Pro-Chancellor, Hindustan University and Mr. Laurent Camus of MBDA Missile Systems. The Agreement promotes a working relationship with similar goals between the parties, specifically; the design, development and delivery of Missile Systems Design & Capability (MSDC) courses. The agreement was executed in May 2013.

RESEARCH AND DEVELOPMENT



Inaugural Lecture on "India Cyber Security Challenges"

COURSES OFFERED

Hindustan University has the following indigenously designed programmes from the academic year 2013-14.

- Ph.D. Defence and Strategic Studies.
- M.B.A. Defence Technology Management - 2 years.

PROSPECTS

The Programme prepares the student to engage in key functional roles in the burgeoning Indian Defence industry in areas of Defence production, Defence Procurement, Defence Acquisition, Internal Security Management and specialized areas of Cyber Security. The course also equips professionals to take up challenging and leadership opportunities in the Private / Public Sector Defence Industries and their Ancilliary Units. Officers after completion of the course possess an ability to apply their technical understanding to solve complex problems in the Defence domain, in terms of operations, equipment capability, acquisition and management in the Defence business.



FUTURE OF DEFENCE TECHNOLOGY IN INDIA
- OPPORTUNITIES AND CHALLENGES

A PANEL DISCUSSION WAS HELD ON 10TH JUNE 2013 AT HOTEL RAINTREE, CHENNAI

**HEADLINES
TODAY**

(telecast on 6th July 2013)

PANELISTS- 1. Mr. Munirathnam Javaji, CEO Assystems India (Hindustan Alumnus) 2. Commodore (Retd.) Sujeet Samaddar, Director and CEO, Shinmaywa Industries, 3. Lt. Gen. (Retd.) S. Pattabhiraman, Former Vice Chief and Army Staff 4. Commodore (Retd.) S. Shekhar, Joint Director, CDTs 5. Air Marshal (Retd.) S. Varthaman, Former Air Office Commanding in Chief, Eastern Air Command 6. Devendra Bhatnagar, CEO, Mahindra Defence and Naval Pvt. Ltd.

PARTNERS

Cranfield
UNIVERSITY

MBDA
MISSILE SYSTEMS

CONTACT: Mr. B. Rajagopalan, Centre Head, Email: cdts@hindustanuniv.ac.in

RESEARCH AND DEVELOPMENT

CENTRE FOR PHOTONICS AND LIDAR RESEARCH



ESTD
2011

INTRODUCTION

Centre for Photonics and LIDAR Research (CEPLAR) has been established for collaborative R&D studies. CEPLAR studies enabled Hindustan University to become one of the Associated Institutions identified by the Ministry of Environment and Forests(MoEF), Ministry of Earth Sciences(MoES), Ministry of Science and Technology and Indian Space Research Organization(ISRO) through the National Carbonaceous Aerosol Program (NCAP) devised under the aegis of the Indian Network of Climate Change Assessment (INCCA).



Prof. Dr. S. K. Satheesh, CAOS, IISc, Bangalore delivering a lecture at the National Workshop on "LIDAR and its Applications in Climate Change, Atmospheric Science and Free Space Optical Communication."

The centre conducts investigations on atmospheric aerosols especially, the elementary carbon or black carbon in the atmosphere. A 523.5 nm operated Micro pulse LIDAR, a seven channel Aethalometer and a DustTrak equipment (for aerosol mass concentration measurement) have been installed in the Lab. Investigations carried out using these equipments are capable of providing valuable information for Climate Studies, Optical Remote Sensing, Free Space Optical Communication, Atmospheric Correction, etc.

LAB FACILITIES:

1. **Micropulse Lidar:** The Micropulse Lidar (MPL) is a ground-based optical remote sensing system designed primarily to determine the altitude of clouds overhead. The physical principle is the same as for radar. Pulses of energy are transmitted into the atmosphere; the energy scattered back to the transceiver is collected and measured as a time-resolved signal.
2. **Aethalometer:** The instrument uses optical analysis to determine the mass concentration of Black Carbon (BC) particles collected from an air stream passing through a filter.
3. **DustTrak:** The DustTrak Aerosol Monitor is a handheld battery-operated, data-logging, light-scattering laser photometer that gives the real-time aerosol mass readings.

Academic Partner:



Contact: Mr. K. Sunilkumar, Centre Head, Email: ceplr@hindustanuniv.ac.in

RESEARCH AND DEVELOPMENT

CENTRE FOR AUTOMATION AND ROBOTICS



ESTD
2014

INTRODUCTION

Centre for Automation and Robotics promotes educational and research activities in the field of robotics, automation and computer vision. This centre bridges the gap between industries and University with a distinctive capability to harness the intellectual energy of academia to impact Indian industries. It is established as an interdisciplinary centre for the schools of mechanical, electronics, electrical, aeronautical and computer sciences of the University in response to the rapidly growing interest of Indian industries in robotics and automation in recent years.



Mr. Akinori Urakawa, President and CEO of Yaskawa India inaugurating the Lab



MoU Signing between Hindustan University and Yaskawa India

FACILITIES



Material Handling Robot with Vision System



CNC Laser Machine

COURSES OFFERED

- M.Tech - Robotics and Control.
- Advanced Certificate Course in Industrial Robots and Applications.

PARTNERS



Contact: Dr. D. Dinakaran , Centre Head, Email: anro@hindustanuniv.ac.in

RESEARCH AND DEVELOPMENT

CENTRE OF RESEARCH IN CYBER SECURITY

CYBER
SECURITY

ESTD
2012

INTRODUCTION

The Department of Computer Science and Engineering of School of Computing Sciences has initiated a Centre of Research on Cyber Security. Cyber Security consists of a set of technologies that involve processes, mechanisms, protocols and standards designed to protect data in computers, networks from misuse, attacks, damage or unauthorized access.



International Seminar on "The Changing Cyber-Security Landscape" by Prof. Harjinder Singh of Warwick University, U.K on 5th December 2012.



Dr. C. Sylendra Babu, ADGP- TN Maritime Security, first Rank Holder in Professional Diploma in Cyber Investigation & Laws, received the Certificate from Dr. Letika Saran, DGP (Retd), Chief Guest.

PARTNERS



CYBER SECURITY
PRIVACY FOUNDATION



COURSES OFFERED

- Professional Diploma in Cyber Investigation and Laws in collaboration with HTC-ITMR
- Short term courses in Cyber Security Tools
- B.Tech in Cyber Security and Digital Forensics with IBM

“

When technology improves, security scenario in the organisation should enhance to make an attack difficult making the criminals hesitant to strike

”

Mr. V. Rajendran, Advocate and Cyber Law Consultant, President Cyber Society of India

CONTACT: Mr. T. Sudalai Muthu, Centre Head, Email: tsmuthu@hindustanuniv.ac.in

RESEARCH AND DEVELOPMENT

MOTOR SPORT VEHICLE DESIGN CENTRE



ESTD
2009

INTRODUCTION

The Centre focuses on design, analysis, fabrication and testing of motorsports vehicles from zero-level. The lifestyle and passion of the Department of Automobile Engineering is to develop state of the art and innovative design in motorsports. Motorsports is the group of competitive events which primarily involve the use of motorized vehicles, whether for racing or non-racing competitions. At present, the centre is focused on the students' events such as BAJA SAE INDIA (All terrain vehicles), Formula IMechE, Formula SAE, Supra, Go kart, Eco kart, Electric Solar Vehicle, Autonomous Underwater Vehicle etc.

These awards have provided a great platform for raising the stature of Engineering students and thus enabling them to further strengthen their knowledge in Motorsport Engineering and its allied fields.



FSAE Competition held at Italy 2013



SAEBAJA 2014 Competition held at Pithampur, Madhya Pradesh.

COURSE OFFERED

B.Tech. (Motorsport Engineering) – 4 years

SPONSORS



BOSCH
Invented for life



CONTACT: Mr. K. Kamalakkannan, Centre Head, Email: modec@hindustanuniv.ac.in

RESEARCH AND DEVELOPMENT

TIFAC - CORE IN AIRCRAFT MAINTENANCE



TIFAC-CORE
In Aircraft Maintenance

ESTD
2006

INTRODUCTION

TIFAC-CORE in Aircraft Maintenance is a world-class facility which caters to the growth and sustainability of aviation sector and serves as a Centre Of Relevance & Excellence (CORE) focused on skilled human power in the area of industrial relevance to Aircraft Maintenance, synergizing the strength of Institute and industry adequately supported by Government.

TIFAC CORE has excellent research infrastructure, the best faculty, excellent students and provides trained manpower for the industry.

HIGHLIGHTS

- TIFAC-CORE in Aircraft Maintenance offers Post Graduate Diploma in Aircraft Maintenance for BE Graduates and short term courses for employees of industry. TIFAC CORE in Aircraft Maintenance has trained 800 HAL Engineers from various divisions. It has facilities for testing of aircraft and avionics components.
- His Excellency Dr. A P J Abdul Kalam, Former President of India, Dr. R. Chidambaram, Principal Scientific Advisor to Government of India and many other eminent scientists and professionals have visited and interacted with members of TIFAC- CORE.

COURSES OFFERED

- M. Tech. Avionics
- M. Tech. Aircraft Maintenance Engineering
- B. Sc. Aircraft Maintenance Engineering
- B. Sc. Avionics
- M. Tech Aircraft Maintenance with specialization in NDT
- M. Tech Aeronautical Engg with specialization in Composites
- M. Tech Avionics with specialization in UAV

The CORE offers short-term training programs as well as certificate courses to the technical staff of Airline operators and aviation industry with intensive practical/on-the- job training.

AIRCRAFTS ON CAMPUS FOR TRAINING



BEECH JET-400A



QUEEN AIR

RESEARCH AND DEVELOPMENT



QUEEN BONANZA



BOEING 737-200

FACILITIES



ALSIM Flight Simulator

The flight simulator ALSIM-AL50, procured from ALSIM, France is a training tool for the transfer of skills for a wide range of aircraft: single piston, twin piston, twin turbine and medium category twin jet.



Aeroflex data bus analyzer

Aeroflex data bus analyzer. The datatrak 600 is a combination ARNIC 429/629 databus analyzer with dual , independent ports for each bus standard.

PARTNERS



Indamer



Decor drape



Aviators



Orient flight School

CONTACT: Dr. R. Asokan, Centre Head, Email: tifac@hindustanuniv.ac.in.

RESEARCH AND DEVELOPMENT

MACHINE INTELLIGENCE AND DATA ANALYSIS RESEARCH CENTRE



ESTD
2014

INTRODUCTION

The recent technological advancements in social media networks and proliferation of mobile devices has caused an unprecedented growth of big data and the ways and means to harness it effectively for strategic decision making with the adoption of data science engineering and analytics. This new dimension of data analytics paradigm has propelled the motive to float the center with an objective to conduct research.

MIDARC has been established with two international partners Stevens Institute of Technology, USA as Academic Partner and Machine Intelligence Research (MIR) Labs, USA, a global non-profit academic consortium. The aim of this Centre is to conduct quality research in the areas of Machine Intelligence, Big Data Analytics, Data Mining, Cyber Physical System and Cognitive Computing.

HIGHLIGHTS

Multipronged Innovative Techniques are formulated to steer the scholar's research prudence in right track to culminate developing cutting edge and state-of-the-art solutions to daunting business problems. The Centre has initiated efforts to jointly collaborate with them in organizing seminars and undertaking research projects. As a part of this initiative, various activities were held to emphasize the significance of incubation.

The Centre has the credit of enlisting the following as International Advisory Members:

1. Dr. Ajith Abraham, Director, MIR Labs, USA
2. Dr. Chandramouli, Thomas E. Hattrick Chair Professor of Information Systems, Stevens Institute of Technology, USA.
3. Dr. Lakmi Jain, Adjunct Professor, School of Engineering, University of South Australia
4. Dr. Khaldoun Khashana, Professor in the School of Systems and Enterprises, Stevens Institute of Technology, USA
5. Dr. Kuriakose Athappilly, Professor, Department of Business Information Systems, Western Michigan University, USA
6. Dr. Sanjay Jain, Professor, School of Computing, National University of Singapore
7. Dr. Vasile Palade, Professor, Faculty of Engineering and Computing, Coventry University, UK



Workshop on Machine Intelligence by Dr. Ajith Abraham, Director, Machine Intelligence Research Labs, USA.



International Seminar on Resilience Engineering by Dr. Emmanuel Ramirez Marquez, Professor, Stevens Institute of Technology, USA

PARTNERS



CONTACT: Mr. Siju Mammen Philip, Centre Head, Email: midarc@hindustanuniv.ac.in.

RESEARCH AND DEVELOPMENT

CENTRE FOR INNOVATION AND ENTREPRENEURSHIP



ESTD
2007

INTRODUCTION

Entrepreneur, a French term, has become unanimous with innovativeness, creativity and business value creation today. By definition, it refers to one who undertakes innovations with finance and business acumen to transform innovations into economically feasible products. The post globalization period is dotted with so many changes in the society that the need for developing entrepreneurial skills is in demand. These skills are not only needed for successfully starting and running a company, but also to work effectively and efficiently in an organization where one is employed.

The Centre for Innovation and Entrepreneurship (CIE), is dedicated to students' development and growth of entrepreneurial culture in the campus. Accordingly, several internal and external programs were organized to catch the pulse of the students and wherever technically advisable, students were encouraged to ideate and develop a Business plan for their ideas. The Centre provides a platform for the students and faculty members with innovative ideas for the betterment of the society by providing them with infrastructure to transform their ideas into products and services.

OBJECTIVES

- To ignite, spread, and foster the spirit of innovation and entrepreneurship in the minds of students
- To provide exposure training, mentoring and business establishment support to the student startups.
- To facilitate the student innovators with expert advice and mentoring
- To provide a networking platform for student innovators and entrepreneurs
- To liaise with professional entrepreneurship networks viz., (NEN, TiE, CII, MMA, etc) and government agencies (MSME, TBI, EDI) and facilitate the innovation and business ideas turn out to successful businesses.

STUDENT STARTUPS UNDER THE CENTRE FOR INNOVATION & ENTREPRENEURSHIP

1. Pearlite Media – Mr.Vignesh Iyer and team (Aeronautical Engg and Automobile Engg departments) – publishing a monthly magazine for school children popularizing science among them
2. Dookka.com – Mr.Vinoth Kumar from MBA (Aviation Mgt) – a website for customized gifting solutions
3. Provision of Serviced Apartments - Mr.Sanjay Das – MBA (Family Business & Entrepreneurship)
4. Corporate consulting – Mr.Harish Prasanna and team (CSE Final year)
5. Hackerspace – Mr. Mohamed Peer and team (Aerospace Engg)
6. Second Generation Entrepreneur – Consumer Durables Retailing – Mr.Durai Karthikeyan MBA (Family Business & Entrepreneurship)
7. Fireworks retailing – Mr.Vignesh, MBA (2011-13 batch)
8. Men's Pride – R Abhishek B.Tech (Civil), Vikneshan M, B.Tech (IT)
9. Ilovechennai.in – Mr.Dinakaran B.Tech (CSE)
10. Ceraslagtics – Mr.Ajith Kumar, Mr.Sundeep & Ms.Nazneen – B.Tech (Civil)
11. Greenenvironment - Mr. Varun Sridharan - (Alumni, Civil 2009 Batch)

COURSES OFFERED

- Entrepreneurship Development is offered as a core paper across disciplines in the curriculum
- FDPs are organized on special topics in collaboration with NEN
- Special sessions are organized on several topics regularly in collaboration with partnering institutions.

PARTNERS



CONTACT: Dr. Yamuna Krishna, Centre Head, Email: cie@hindustanuniv.ac.in

RESEARCH AND DEVELOPMENT

SIMULATION AND ENGINEERING DESIGN FACILITY

SIMENDES

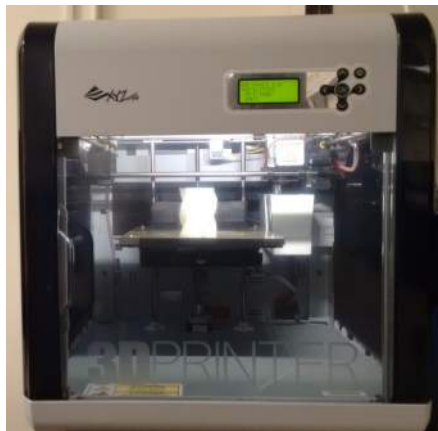
INTRODUCTION

The Centre for Simulation and Engineering Design Facility (SIMENDES) has been established to promote teaching and research on the best practices in Product Life Cycle Management through virtual product design, virtual product testing, virtual product manufacturing and virtual collaboration for product development. Also, prototype of the product can be manufactured so that the technology, thus developed, can be transferred to the Industries. This will include Reverse Engineering Processes also. The Simulating Facility will deliver high quality products in a timely and cost effective manner. The simulation software leverages the capacity of innovation for companies of all sizes and in all industries by delivering breakthrough productivity design solutions powered by highly collaborative platform. The software enables the full spectrum of next generation collaborative virtual design including system engineering, shape design, mechanical and equipment engineering and company re-use.

HIGHLIGHTS

Dassault Software of worth 35.93 lakhs has been procured. Short term training program on "Computational Fluid Dynamics" was conducted in collaboration with CD Adapco, IIT faculty and other industrial partners.

3-D printer is available for creating prototype using CAD. Earlier making prototype was time-consuming and expensive, requiring skilled craftsmen and specific machinery. 3-D printing is used to produce new structures and new shape and to try new materials. Instead of sending modeling instructions to a production company, it can be used to insource production.



3D PRINTER

Courses Planned

- i) Certificate course in Computational Fluid Dynamics (2 weeks)
- ii) Advanced Certificate course in Computational Fluid Dynamics (4 weeks)
- iii) Certificate course in Basic Mechanical CAD (40 hrs)
- iv) Advanced Certificate Course in Mechanical CAD (80 hrs)
- v) Diploma course in Mechanical CAD (120 hrs)
- vi) Certificate course in DELMIA (Virtual Manufacturing- 40 hrs)
- vii) Advanced Certificate course in DELMIA (Virtual Manufacturing – 60 hrs)

Partners



Contact: Dr. D.G. Roychowdhury, Centre Head, Email: simendes@hindustanuniv.ac.in

RESEARCH AND DEVELOPMENT

CENTRE FOR HIGH VELOCITY IMPACT SIMULATION



INTRODUCTION

The response of structures and materials subjected to dynamic loading has been a subject of interest for aeronautical, automotive, military, civil and mechanical engineering. Understanding the high velocity impact problems such as Bird strike on gas turbines, A/c wing leading edge, A/c fuselage canopy, Hail ice impact on aircraft, projectile/ missile impact and air blast loading on aircraft are challenging issues for the aircraft designers for both civil as well as military applications. In other engineering applications underwater explosion loading on submarines / ships, vehicular impact, underground mine blast, collision of vehicles / trains, metal forming are some of the high velocity impact problems. Traumatic Brain Injury (TBI) is one of the high velocity impact that affects the mankind very seriously. In all the field explained above, understanding of materials failure under high velocity impact is essential in the analysis and design of structures and protective systems for human beings. Hence it is proposed to start a high velocity impact simulation centre. The proposed centre can initiate research in the above field numerically and experimentally. Numerical simulation is carried out mostly using LSDYNA / DYTRAN / MARC/ ABACUS etc, finite element codes. The centre will have the following test facilities also.

AREAS OF RESEARCH

- Bird strike analysis
- Under water explosion
- Shock and vibration
- Traumatic brain injury

COURSE PLANNED

Short-term courses in "Shock and Vibration" and "Nonlinear finite element analysis"

CONTACT: Dr. K. Ramajeyathilagam, Centre Head, Email: krama@hindustanuniv.ac.in

CENTRE FOR COMMUNICATION & NETWORK SECURITY HUB



INTRODUCTION

The Centre for Communication & Network Security Hub will focus on the latest research such as Device-to-Device (D2D) Communication across hybrid topological structure and present novel and innovative security and privacy techniques for Next Generation Communication and Network Security. The Centre provides the current state-of-the-art hardware and software paving the way for valuable insights into future directions and challenges in the field.

PARTNERS

- The Centre is planning to have collaboration with University of Missouri-Kansas City for academic and research purpose.
- CISCO and NexGTech Research labs, Chennai will act as industry partners for sharing their expertise in setting up specialized labs and conducting courses and certification programmes.
- To have Professional Societies such as IEEE Communication Society and IEEE Systems, Man, and Cybernetics Society for jointly delivering distinguished lectures and training. They will also sponsor events conducted by the Centre.
- The Centre will also work as a business incubating hub for industries in cooperation with Micro, Small and Medium Enterprises (MSME), Ministry of MSME, Govt of India to develop and test their prototype models before commercialization.

COURSES PLANNED

- M.Tech. Mobile Pervasive Computing and Communication
- Certificate programmes by CISCO and Diploma programmes in Networking and Pervasive Computing.
- Research Programs in Next Generation Communication and Network Security.

CONTACT: Dr. K. Komathy, Centre Head, Email: it@hindustanuniv.ac.in

RESEARCH AND DEVELOPMENT

CENTRE FOR RESEARCH IN ADVANCED CONSTRUCTION TECHNOLOGY



INTRODUCTION

The Centre for Research has taken a leading role in teaching and pursuing research in important areas like material replacement in concrete, strengthening of existing structural systems, cold-formed steel, exploring energy aspects in structures and steel concrete composites. It has expertise in Structural Engineering, Environmental Engineering, Architecture and Instrumentation which brings in an interdisciplinary research culture.

RESEARCH AREAS

Development of sustainable materials, Material replacement with fibres, fly ash, steel composites, silica fume concrete, waste recycling etc., Environmental and ecological issues in structures, Health monitoring and maintenance of structures, Zero Energy Structure, Energy Aspects in Traditional structures - Heritage structures, Demo Structures (3 or 4 types) with sensors which can be monitored in the computer, and Fund generation for equipping the centre laboratories with the latest instrumentation and apparatus

PARTNERS

Concrete Quality Concepts Pvt. Ltd.,
(An IIT - Madras Incubated Company)



Hitech Concrete Solutions
Chennai Pvt. Ltd.

CONTACT: Dr. R. Angeline Prabhavathy, Centre Head, Email: cenact@hindustanuniv.ac.in

CENTRE FOR SUSTAINABLE HABITAT DEVELOPMENT

sustainable
HABITAT

INTRODUCTION

The Centre for Sustainable Habitat Development provides planners, economists, policy makers and designers educated decisions pertaining to their respective fields with objectives to perform research projects on sustainable development to identify projects for urban renewal and propose design solutions, or call for design solutions to provide consultancy and professional services to identify and monitor various ratios that measure progress of sustainable development.

The Centre for Sustainable Habitat Development is intended to be a state-of-the art research facility, with collaborative inputs from various institutions like Madras School of Economics, Auroville, Confederation of Indian Industry, Transparent Chennai, Corporation of Chennai, etc. The operational structure of the centre is intended to be ideal for cross-platform, cross-organization research programmes.

The centre intends to feed into the curriculum for Bachelor of Architecture programme at various universities and colleges in the city and provide an elective design studio for 8th and 9th semester students, and a design studio for Master of Architecture programme. Besides, the students can also participate in the programmes of the centre and gain from the venture. Community outreach in the form of a 'Sustainable Chennai Forum' will also be supported by the centre to connect to professionals and other forums in the city.

RESEARCH AREAS

Sustainable urban development, Urban design and renewal, Urban land management, Traffic and Transportation Management

PARTNERS



CONTACT: Dr. Sheeba Chander, Centre Head, Email: cshd@hindustanuniv.ac.in

DR. K. C. G. VERGHESE RESEARCH AND RESOURCE CENTRE



Dr. K. C. G. Verghese Research and Resource Centre received the award for "Excellence in Built Environment 2011-2012" presented by the Indian Buildings Congress.

The library is the focal point of a professional University. The resource centre is well equipped with many technical books and Indian and Foreign journals and periodicals. Interesting collection of flight reading materials are available. The Library has a total of 1,00,000 Books and 300 Printed Journals(both international and national). The following online Databases are available for the Students and Faculty which has remote access facility:

 Scopus	 Science Direct	 SpringerLink
 AIAA e-Library	 IEEE/IEE (IEL Journals)	 Emerald Insight
 ASCE Online Research Library	 ASME Digital Library	 Access Engineering Library
 Proquest	 J-Gate	 Cengage Learning
 EBSCO	 ASTM	 NPTEL Courses
 Open Access E-Journals & E-Books	 Taylor & Francis Journals	

INSTITUTIONAL REPOSITORY

Central Library has set up an open archive of institutional publication including Video and Audio Lectures, Faculty Publications, Conference Papers, Scholarly Articles, Technical Reports, Question Papers, Project Reports using Open Source Software.

DIGITAL LAB

Computer Labs for accessing online journals, CD's, etc.

CONDUCTIVE ENVIRONMENT

Architecture marvel, Air Conditioned and modern in structure, Ample reading space and multi storey buildings.



MIG 23 AIRCRAFT



HARVARD AIRCRAFT

RESEARCH & DEVELOPMENT PROJECTS

FUNDED R&D PROJECTS (COMPLETED)

S.No.	Title of the Project	Faculty & Dept.	Amount Sanctioned in (lakhs)	Duration
1	Establishment of Entrepreneurship and management development centre	Dr. R. Srinivasan, MBA	7.00	3 years
2	Simulating a model for energy conscious environment with specific reference to housing	Dr.J. Vijayalakshmi, Arch	16.70	2 years
3	Solar powered DSP based Electric Drives	Dr.V. Jayaraman, EEE	5.00	4 years
4	An advanced controller for PM Synchronous Machine	Dr. A.K. Parvathy, EEE	3.04	2 years
5	Development of three wheeler to be driven by physically	Prof. K. Kamalakannan, Auto	6.00	2 years
6	Modernized nodal centre for e-learning, testing and research in structural engineering with computer aided laboratory.	Dr.Jessy Rooby, Civil	10.00	2 years
7	Software Synthesis for Signal Processing Embedded Applications	Dr. Devanathan Dr. Anitha S. Pillai Prof. Ranjan, EEE	7.00	2 years
8	Numerical Simulations of hull propeller interaction of underwater vehicle with mounted propeller	Dr. D.G. Roy Chowdhury, Mech.	17.73	3 years
9	Augmentation of Research facilities for Mechatronics and Vibration Lab.	Dr.T. Jeyapoovan, Mech.	25.00	5 years
10	Characterization and Utilization of High volume fly ash on Concrete for Structure Application	Dr.Joanna, Civil	23.91	3 Years
11	Design and Fabrication of Formula One Car	Prof.Kamalakkannan, Auto	10.00	1 year

RESEARCH & DEVELOPMENT PROJECTS

FUNDED R&D PROJECTS (ONGOING)

S.No.	Title of the Project	Faculty Name & Dept.	Amount Sanctioned(in Lakhs)
1	Aircraft Maintenance - DST-TIFAC	Dr. R.Asokan Aero	1372.00
2	Design and development of an Efficient Free Space Optical Communication Link between Earth Station and Low Orbit Satellite by collecting data using Micro Pulse LIDAR, Aethelometer and Dust tract equipments. Centre of Excellence in Photonics & LIDAR Research (CEPLR)	Mr. Sunil kumar ECE	166.00
3	Centre of Excellence in "Clean Energy and Nano Convergence" CENCON)	Dr. Pushpamitra CENCON	100.00
4	Intelligent Systems for adaptive enhancement of Images of Underwater objects	Dr.M.M.Ramya, MCA	20.01
5	Enhancement of photovoltaic efficiency by down conversion phosphors for underwater solar panels towards naval applications	Dr.R.Sudarkodi, CENCON	24.46
6	Development of CO2 Absorbant (Sodalime) meeting IS-5321 Standards.	Dr.PS. Raghavan, Chemistry	18.84
7	Nanoparticles of TPA and CsTPA as catalysts for biodiesel production from used cooking oils with high acid value.	Dr.A.Anitha, Chemical	34.46
8	Hybrid Energy Management System using Cyber – Physical Energy System for Micro- grid Applications	Dr.A K.Parvathy, EEE	36.84
9	Design & Development of 1 KW Hybrid Vertical Axis Wind Turbine System for Low wind Regimes	Dr.M.Premkumar, Mechanical	28..82
10	Development of Multi-functional Nanocarriers for Cancer Theranostics	Dr.M.Prabaharan, Chemistry	48.70

RESEARCH PUBLICATIONS

Publications in Journals and Conferences by the faculty members of Hindustan University for the period of 2008 – 2014 are 2519.

Publications spread for the period 2008 – 2014

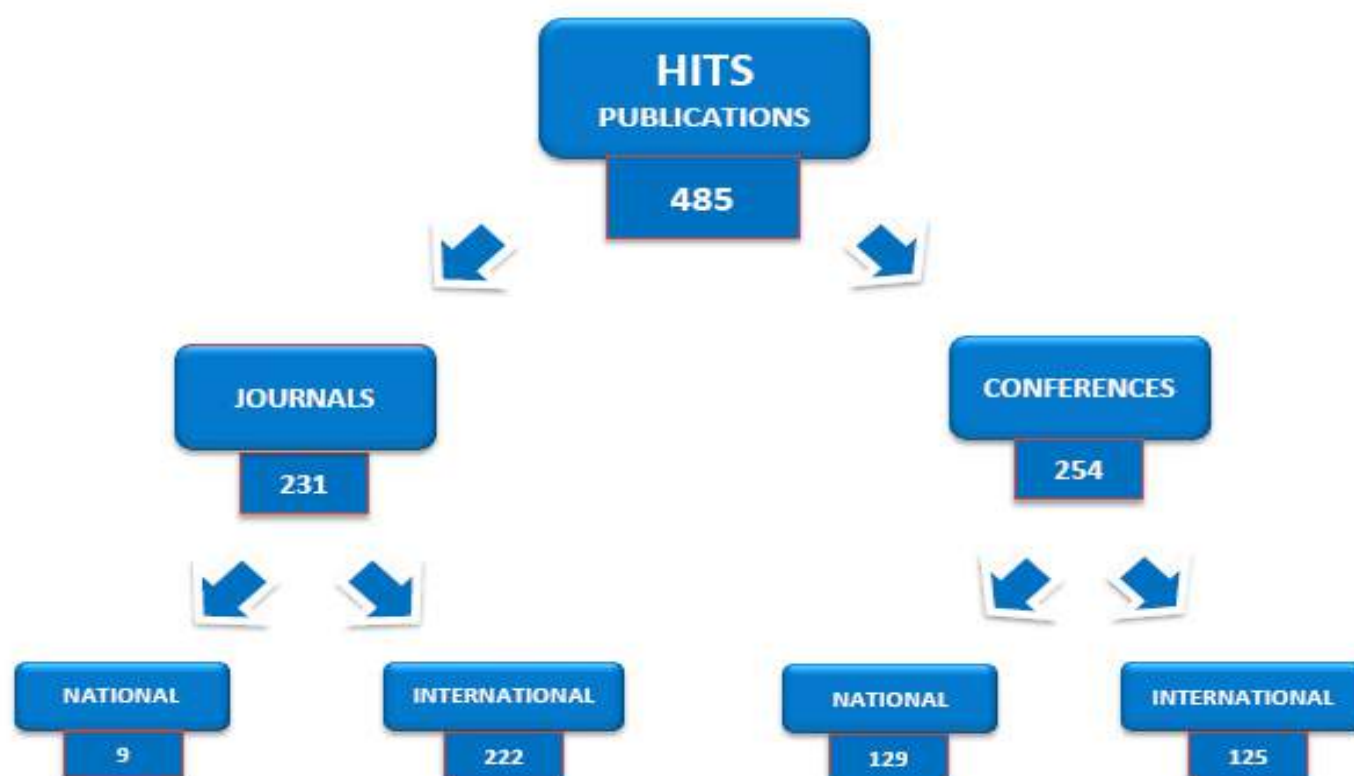
Conference Publications	-	1372
International	-	762
National	-	610



Publications spread for the period 2008 – 2014

INTELLECTUAL PROPERTY

Publications spread for the year 2014



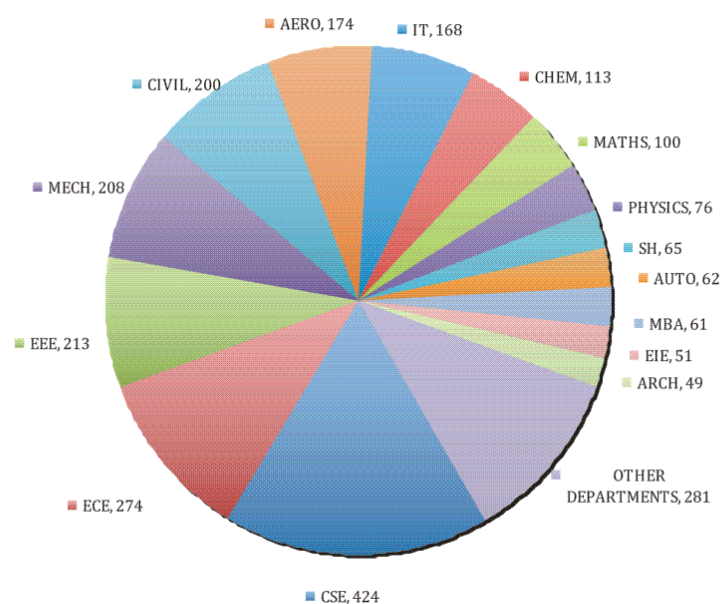
CITATIONS

The number of citations for the publications is very good measure of university's progress with respect to academic research.

For the period 2008 – 2014	-	1010
For the year 2014	-	182

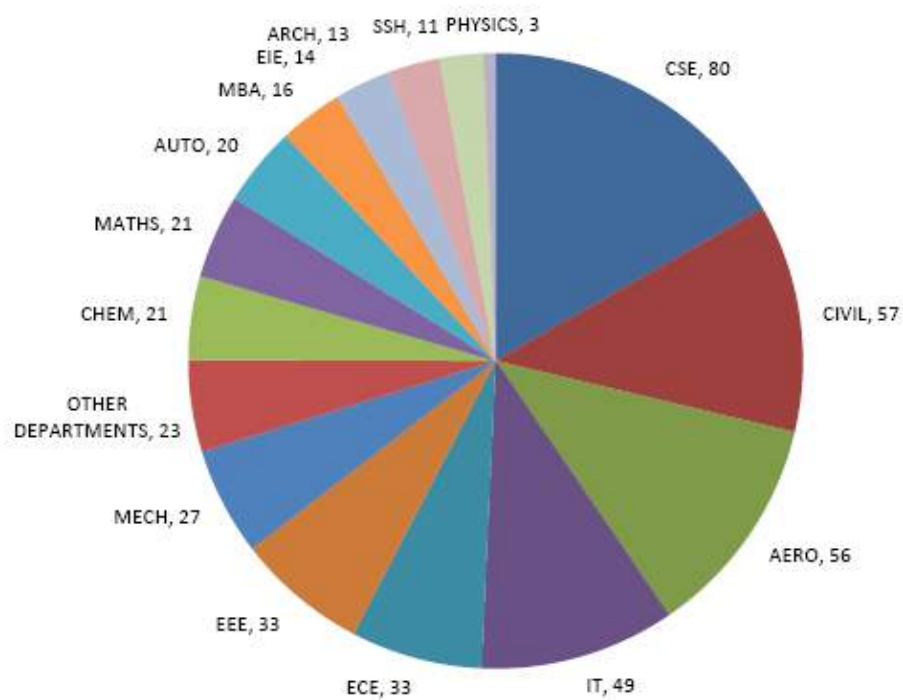
INTELLECTUAL PROPERTY

DEPARTMENT WISE PUBLICATIONS ANALYSIS FOR THE PERIOD 2008 - 2014



Note: For better representation, the top 15 departments based on number of publications (both journals and conferences) have been individually represented, while the other departments are tagged as 'OTHER DEPARTMENTS'.

DEPARTMENT WISE PUBLICATIONS ANALYSIS FOR THE YEAR - 2014



INTELLECTUAL PROPERTY

INDEXED Vs NON-INDEXED

The number of publications of the university appearing in indexed databases of Scopus, Web of Science, IEEE and Google Scholar is given below

2014: TOTAL VS INDEXED	
TOTAL	231
INDEXED	132

TABLE 4: RATIO METER – INDEXED:NON-INDEXED	
YEAR	RATIO METER
2008	0.5 : 1
2009	0.7 : 1
2010	0.5 : 1
2011	1 : 1
2012	1 : 1
2013	2 : 1

AVERAGE IMPACT FACTOR

The impact factor is a measure of reflecting the average number of citations to recent articles published in that journal. Source Normalized Impact per Paper (SNIP) is defined as the ratio of a journal's raw impact per publication and the citation potential in its subject field. SCImago Journal Rank (SJR) is a size-independent indicator and it ranks journals by their 'average prestige per article'.

Average impact factor	-	1.88
For the year 2014	-	1.77
Average SNIP (2008-2014)	-	0.95
For the year 2014	-	1.04
Average SJR (2008-2014)	-	0.31
For the year 2014	-	0.48

JOURNAL QUALITY RANGE

QUALITY METRIC	LOWEST RANGE	HIGHEST RANGE
IMPACT FACTOR (IF)	0.169	18.216
SOURCE NORMALIZED IMPACT FACTOR (SNIP)	0.067	4.351
SCImago JOURNAL RANK (SJR)	0.025	1.631

INTELLECTUAL PROPERTY

h - INDEX ANALYSIS

An index of 'h' indicates that among the articles published by the University, 'h' articles has been cited at least 'h' number of times.

h- Index = 12

(Of the 3192 documents identified and considered for the h-Index, 12 have been cited at least 12 times.)

HINDUSTAN JOURNAL

The university has a vast repository of literature and proceedings including Research Thesis, Published Papers, Patents and Journal Publications.

The university publishes a referred multidisciplinary journal comprising of multi-disciplinary research paper titled 'Hindustan Journal'. The advisory panel of the journal includes national and international experts. The highlight of this journal is that the contributors of research papers not only from our own institutions but also from various other reputed national and international institutions and organizations. The journal has also been a platform for international intellectuals and researchers to discuss their results. Also, the journal has included reports on significant projects carried out by students. In order to serve the research community, a list of upcoming academic conferences in different fields is included in each issue.



INTELLECTUAL PROPERTY

PATENTS**

S. No.	Name of the school	Name of the Investigator	Name of the Invention	Application No.
1	Aeronautical	Mr. D. Balaji, AP	Turbo Ramjet Engine	1620/CHE/2011
2			Drawn out Propeller Engine	886/CHE/2011
3			Bypass Air Mechanism for Hybrid Engine	366/CHE/2012
4		Mr. Dinesh Kumar, AP	Innovative Hybrid car	3247/CHE/2014
		Mr. Neeraj Jerauld*		
		Mr.Gautam ShivaKumar*		
		Mr.Nabil Ummer*		
5		Mr. Dinesh Kumar, AP	Self Starting Scram JET Engine	3248/CHE/2014
		Mr. Charan Teja*		
		Mr. Anupam Singh*		
6		Mr.Kirubakaran Premkumar, AP Mr. Sebastian Bharathy, AP	System for Prediction of Fly-By Near Earth Objects	3253/CHE/2014
7		Dr. Dalbir Singh, Professor	Hybrid Wing Concept for Increased UAV Performance	3255/CHE/2014
		Mr. Goutham Govindarajan*		
	Mr. Azarudeen Asath*			
8	Automobile	Mr. K. Kamalakkannan, Assoc. Prof.	Design, Development and Dynamic Analysis of a Semi Active Suspension System for an All-Terrain Vehicle Using Fuzzy Logic Control System	5732/CHE/2014
9		Mr. K. Kamalakkannan, Assoc. Prof.	Design, Development and Fabrication of Three wheelers for physically Challenged Driver	5733/CHE/2014
10		Mr.Jaikumar.M, AP Mr. Prakash N, AP	Design and Modification of A Dual Fuel Engine	5747/CHE/2014
11		Mr.A.Muthuvel,AP Mr.Kamalakkannan.K, Assoc. Prof. Mr. J.Godwin John, AP	Drag reductions in commercial Buses for fuel consumption using RANS equation (Computational Fluid Dynamics)	5740/CHE/2014
12	Chemistry	Dr. P. S. Ragavan, Professor	A Process for preparation of Radio - Opaque glass filler for Dental Restorative Application	478/CHE/2010
13		Dr. S. Induja, AP Dr. P. S. Ragavan, Professor	Sintered Calcium Phosphate as catalyst-support	2303/CHE/2012
14		Mr. P.S.Raghavan, Professor Dr. S. Induja, AP	Nonnoble Metal Oxide Catalyst for Automobile Exhaust	2244/CHE/2013

**Under Process

*Student/Scholar, AP- Assistant Professor, Assoc. Prof.- Associate Professor

S. No.	Name of the school	Name of the Investigator	Name of the Invention	Application No.
15	Computing Science	Mr. Ashok Verghese, Director Mr. T. Sudalai Muthu, AP	A Method and A Prior Warning Mixed Mode Communication System for the Natural Calamities	4247/CHE/2011
16		Mr. Ashok Verghese, Director Mr. D. John Aravindhar, AP	PC ERGO	820/CHE/2012
17		Mr. T. Sudalai Muthu, AP	A Novel Counting Device for Domestic Cookers Suitable for Hearing Impaired (CODEPEC)	2047/CHE/2012
18		Mr. Ashok Verghese, Director Mr. T. Sudalai Muthu, AP Mr. G. Muthukumaran, Assoc. Prof.	Solar Powered Tapioca Harvester (SOPOTAHA)	3014/CHE/2012
19		Mr. Ashok Verghese, Director Mrs. S. Sathyalakshmi, Professor Mr. M. Sambath, AP	Bumper to Bumper Vehicle Monitoring System (B2BVeMOS)	3820/CHE/2012
20		Mr. F. W. Jesudas, Assoc. Prof.	Raising the efficiency of the Indian farmer by switching him from crops to Electricity generation project	Copyright - DEP.634617313843906250
21		Mr. Sudalai Muthu T, AP	Optimized Areca (Betel) nut Separator	3177/CHE/2014
		Ms. Joyce John*		
		Ms. Gomathi P*		
22		Mr. Sudalai Muthu T, AP	Solar Power Automatic Tapioca Harvester	3179/CHE/2014
	Mr.G.Muthukumaran, Assoc. Prof.			
23	Mr. Thangakumar J, AP	Haptic G-G Audio Navigation Device for the Visually Challenged	3180/CHE/2014	
	Mr. Sudalai Muthu T, AP			
	Mr.Sambath M, AP			
24	Mr. Sudalai Muthu T, AP	Intelligent Refueling System	3181/CHE/2014	
	Dr. E.R. Naganathan, Professor			
25	Mr. Thangakumar J, AP	Driver Assistance Device (DAD) for Zero Accident Safety Roadways	3174/CHE/2014	
	Dr.Rajeswari Mukesh, Professor & Head			
26	Mr. F. W. Jesudas, Assoc. Prof.	Solar power production for 10 hrs a day using static solar panels	5744/CHE/2014	
27	Dr. Ramesh Kumar, Assoc. Prof.	AIDS/ HIV Dataset for Computational Analysis	5888/CHE/2014	
28	Dr. Ramesh Kumar, Assoc. Prof.	Framework for Mining Association Rule Mining from Biomedical Data	5889/CHE/2014	
29	Computing Science	Ms. Jisha Jose Panackal, AP Dr. Anitha S Pillai, Professor	Adaptive Utility-based Anonymization: An Intelligent Approach for Privacy Preserving Data Mining	5741/CHE/2014

S. No.	Name of the school	Name of the Investigator	Name of the Invention	Application No.
30	Electrical Sciences	Mr. Aby K. Thomas, Professor	Sensors for Alcohol detection for drivers	581/CHE/2009
31		Mr. G. Muthukumaran, AP	Improved Solar Powered Low Cost Tyre Pressure Sensing Assembly with Bifurcation for Automobiles	3065/CHE/2012
32		Dr. Aruna Rajan, Assoc. Prof.	Design of Power Converters for Battery of Electric Vehicle	3249/CHE/2014
		B. Santhosh*		
33		Dr. A.K. Parvathy, Professor & Head	Pyro Aegis for Trains	3254/CHE/2014
		Mr. Shaikh Nagma Anwar*		
		Mr. Prabhakaran P*	Multifunctional bed for Quadripilegia patients	6188/CHE/2013
34		Mr. Muthukumaran G Assoc. Prof.		
		Mr. Moovendhan P*		
35		Ms. Kanpur Rani V, AP	The Intelligent Cradle (IC)	3175/CHE/2014
		Mr. Sudalai Muthu T, AP		
36		Mr.Sambath M, AP	Intelligent Circuit for Automatic cut-off for Portable Immersion Heater	3173/CHE/2014
		Mr. Sudalai Muthu T, AP		
		Mr. Thangakumar J, AP		
37		Dr. Rubesh Anand, Assoc. Prof.	3D Handwritten Signature Biometrics For Efficient Authentication	5734/CHE/2014
38		Mr. V.R.Prakash, AP Mr. K.G.Easwaran, AP Mr. L.R.Vignesh Raj , AP Mr. R.Prasanth, AP	Alcohol analyser –cum-speed governor	5735/CHE/2014
39		Mr. Jesudas F.W, Assoc. Prof.	Electric Power Generator Using Low Speed Winds	5742/CHE/2014
40	Mechanical Engineering	Dr.D.Dinakaran, Professor	Scooping Machine for the Hygienic Handling of Open Defecation	3176/CHE/2014
		Mr.G.Muthukumaran, Assoc. Prof.		
41		Dr.G.Ravikumar Solomon, Professor Mr. C.Franklin Paul* Mr. Ramasruthi*	Enhancement of Heat Transfer during the Solidification of PCM for free Cooling Applications	5739/CHE/2014
42		Mr.N.Ramanarayanan, AP Mr. Muthukumaran* Mr. S. Manoj Krishnan* Mr.A. Mohamed Ismail* Mr. Norman Cliford* Francis, Mr. A. Mohamed Salman*	Modification Of Manual Gear Shifter In A Two Wheeler	5736/CHE/2014
43		Dr.T. MichaPremkumar, AP Mr. Aitha Sudheer Kumar* Mr. Athmakuri Varun*	Design and Fabrication of Vertical Axis Wind Turbine used in Low Wind Speed Regimes	5748/CHE/2014
44		Dr. T. S. Ravikumar, Professor Mr.J.V. singh*, Mr.Manojpranav*, Mr.Lakshminarayanan* Mr.Mohamedriyazdheen*	A Novel Design for CA4S Engine	5738/CHE/2014

S. No.	Name of the school	Name of the Investigator	Name of the Invention	Application No.
45	Structural Sciences	Dr. P.S.Joanna, Professor	Earthquake Resistant Steel beams With encased trapezoidal corrugated web	2105/CHE/2014
46		Mr. Ravi Kumar, Assoc. Prof.	Polyester Resin Matrix Flooring Tiles Using Various Microfillers	3420/CHE/2014
		Mr. Minu Miriam Paul*		
47		Mr. Ravi Kumar, Assoc. Prof.	Epoxy Resin Matrix and Mortar Formulation Using Various Micro-fillers and Fine Aggregates	3421/CHE/2014
		Mr. Minu Miriam Paul*		
48		Mr. Ravi Kumar, Assoc. Prof.	Polyester Resin Mortar Flooring Tile Using Various Fine Aggregates and Microfillers	3422/CHE/2014
		Mr. Minu Miriam Paul*		
49		Mr. Ravi Kumar, Assoc. Prof.	Polyester Resin Matrix Formulation Using Various Microfillers	3424/CHE/2014
		Mr. Minu Miriam Paul*		
50		Mr. Ravi Kumar, Assoc. Prof.	Polyester Resin Mortar Formulation Using Various Fine Aggregates and Microfillers	3425/CHE/2014
		Mr. Minu Miriam Paul*		
51		Mr. Ravi Kumar, Assoc. Prof.	Steel Fiber Reinforced Polyester Resin Concrete	3252/CHE2014
		Mr. Nikhil Rajeev*		
52		Dr. Joanna P.S Mr. Samuel J	Cold-Formed Steel Beam with Encased Braced Web for Earthquake Resistant Constructions	5745/CHE/2014

*Student/Scholar, AP- Assistant Professor, Assoc. Prof.- Associate Professor

STUDENT RESEARCH FOCUS

The students of Hindustan University across different departments have participated in various prestigious competitions across the globe, contested with the best of brains and brought laurels to the institution.

DEPARTMENT OF AERONAUTICAL ENGINEERING

Spirit Global Design Challenge 2013, by Spirit Aerospace Inc., USA

- The Final year student Bolisetty Vishnu and Veluru VenkataRamana participated in Spirit Global Design Challenge 2013, USA, sponsored by Spirit Aerospace Inc., USA, on 8th December 2013.



Stationary Fuselage Team, in Spirit Global Design Challenge 2013

INTERNATIONAL AERIAL ROBOTICS COMPETITION ,BEIJING,CHINA

- Team Recon from Hindustan University represented India at the sixth mission of the International Aerial Robotics Competition organised by Association of Unmanned Vehicle System International at its venue in China. From all over the world, 32 university-teams competed for seven titles.
- The teams had students from across all educational levels consisting of graduates, post-graduates and research scholars. Six students, Aasish Chandramouli, Mithun Lal George, Rizvan Muhammad, Ishita Nandola, Buvaneshwari and Manohar Guttula, and two staff members, Dinesh Kumar and Karunakaran, constituted Team Recon.
- The team had won the title "International Academic Exchange Award". The model exhibited by the team was a vehicle supported by four ultrasonic sensors and three cameras. The vehicle had a unique "H" design which had more performance efficiency than the "X" designs. The team has plans to propose this model to various agencies for further research.



STUDENT RESEARCH FOCUS

SAE AERO DESIGN WEST 2014 (FORT WORTH, TEXAS, USA)

• The Team ASTRA Participated in the SAE Aero Design west 2014 at Texas, USA. The team consists of Mr. Goutham Govindarajan (Team Captain), Mr. Dharun Krishnan, Ms. Anusha V, Mr. Nishanth Shankaran, Mr. Azarudeen A, Mr. Shanmuganathan Saravanan, Mr. Vikram Kiran, Mr. Anupama, Mr. Ashwin Sunderraj, Mr. Nazeershah, Mr. Aasim Mohammed, Mr. Gopikrishnan Santosh.



SAE Aero Design west 2014 –Team ASTRA



MARS ROVER TEAM

The team was led by Rahul Kanuganti, second year Mechanical Engineering student, supported by the faculty advisors Associate Prof. Muthukumaran & Asst. Prof. Shyam R Nair, Department of Electronics & Instrumentation Engineering, Hindustan University. The challenge featured multiple revamped tasks, including an Equipment Servicing Task that makes necessary changes to the equipment provided using the robotic hand, Astronaut Assistance task to assist and deliver the aid packages to the astronaut, Sample Return Task which incorporates collection of the soil and testing for the life forms present, a more aggressive Terrain Traversing Task to transverse over the different conditions of terrain at the desert conditions.

Hindustan Mars Rover Team achieved 3rd position from India and 18th position throughout the world in University Rover Challenge 2014 conducted by Mars Society, at Mars Desert Research Station, Utah, USA from 29th to 31st May 2014.

300 teams registered for the event from across the globe. The competition involved designing of a Mars Rover prototype with specific dimensions and to accomplish certain tasks at Mars Desert Research Station like, sample collection and testing, astronaut assistance etc

The complete Research and Development conceptualization done by Staff and Students.

NASA TECH BRIEFS (USA)-Create the Future Design Contest 2013

The following Hindustan University Projects secured one of the Top Ten most popular entries out of 1,354 entries in the NASA Tech Briefs-Create The Future Design Contest 2013. The projects prized with a Sphero Robotic Gaming Ball. The result is available at <http://contest.techbriefs.com/2013/top-votes>

a. Solar Powered Road Cleaning Robot-1st Place

Dr. D. Dinakaran, Professor, School of Mechanical Sciences developed a Solar Powered Robot. It secured the 1st Place in the Contest. Waste disposal is a crucial problem in developing countries particularly in India due to heavy population. Presently sanitary workers are using the outdated and crude devices like brooms, iron plates and bamboo baskets for primary collection of solid waste. As a solution to manual primary waste disposal, a cost effective garbage cleaning robot is developed.

b. Tsunami Coastal Communication & Warning System (TuCoWaS)-2nd Place

Mr. Sudalai Muthu T., Asst. Professor, School of Computing Sciences developed this system which secured 2nd place in the contest. The aim of this project is timely audible dissemination of the impending disasters. As conventional communications often fail during such calamities, a standalone failproof communication system caters to cyclones, tsunamis, floods and seismic threats through dissemination of timely and automated loud warning sirens.

c. A Night Safety Alert Messaging System for Vehicles Using Vehicular Adhoc Networks (NSAMSV)-6th Place

Mr. Thangakumar J, Asst. Professor, School of Computing Sciences developed this system which secured 6th place in the contest. The aim of the project is to avoid major road accidents at night due to the breakdown or unauthorized parking of heavy motor vehicles on the highway.

d. Multifunctional Bed for Quadriplegia Patients-7th Place

Mr. G. Muthukumaran, Associate Professor, School of Electrical Sciences developed this system which secured 7th place in the contest. The objective of the project is to help physically challenged individuals having both hand and leg impairments to operate their bed and its movements through voice commands.

e. A Novel Counting Device for Domestic Pressure Cooker for Hearing Impaired (CoDePec)-8th Place

Mr. G. Muthukumaran, Associate Professor, School of Electrical Sciences developed this system which secured 8th place in the contest. This invention can be used in household cooking for the benefit of hearing impaired community, who are unable to hear the whistling sound of the cooker. This particular invention, involves a counting mechanism for counting the number of times the cooker whistled (weight lifted) and display the status of the food which is being cooked.

ADMISSION PROCEDURES AND GUIDELINES



ADMISSION PROCEDURES FOR PH. D, M.S (BY RESEARCH) AND M. PHIL. COURSES (FULLTIME & PART TIME)

The admissions to these Courses are done twice in a Year (January and July). The applications are invited through advertisements in National Newspapers and the selection is based on the performance of the candidates in a written examination and Interview.

SELECTION PROCEDURE

Eligible candidates possessing the minimum educational qualifications will be called for an written test and interview by the Director Research office. No TA will be paid for attending interview/tests. However, applications from foreign nationals may be considered without an interview or test.

Based on the academic records and performance in the interview/test, the selection committee will recommend to the Director Research, the names of the candidates found suitable for admission to the programme. Admission offer will be issued by the Admission office.

Documents to be submitted along with the application form

An application fee of Rs. 500/- and registration fee of Rs. 500 by a DD drawn in favour of Hindustan Institute of Technology and Science in an nationalized bank payable in Chennai must be sent along with the application without which the application shall not be considered. Copies of all Mark sheet/Grade cards of degree certificate (UG and PG) towards proof of qualifications (Originals should not be sent).

CATEGORIES OF ADMISSION

Following are the categories of Admission to Ph.D., MS (by research) and M.Phil. Programmes:

- Full-time scholars with or without fellowship
- Part time internal scholars: Open to employees of HITS subject to rules and regulation of the University
- Part time External scholars: Open to employees of private and public sector organizations or Institutions having R&D infrastructure and recognized by AICTE/UGC.

ELIGIBILITY FOR PH.D. ADMISSION

Candidates should have the minimum qualifications mentioned below for admission into Ph.D. Programme:

S No.	Programme	Minimal Qualification
1	Ph.D. Degree in Engineering / Technology	M. E. / M. Tech. / M. S. (By Research) in the relevant branch
2	Ph.D. in Science	M. Sc. / M. S. (By Research) / M. C. A in the relevant branch
3	Ph.D. in Humanities and Social Science	M. A. / M. Sc. / M. Com
4	Ph.D. in Management Science	MBA / M. S. (By Research) / P.G. Diploma Sciences of an IIM / M.Com / M. B. M. / MCS. (Corporate secretaryship) / M.A. (Economics/Econometrics) / M.Sc. (Mathematical Economics) / M.Sc. (Psychology) / M. Sc. (Statistics / Applied Operations Research)
5	Ph.D. in Architecture and Planning	M. Arch/ M. Plan / M. S. (By Research) in Architecture & Planning / M.U.R.P. / M.S. (By Research)

ADMISSION PROCEDURES AND GUIDELINES

NOTE:

- All the qualification must be recognized by UGC / AICTE

Candidates should have passed the qualifying examination mentioned above with first class.

- In those cases where a class is not awarded in the qualifying examination but only marks, the candidate should have obtained a minimum of 60 percent marks.
- In those cases where a class is not awarded in the qualifying examination but only grades, the candidate should have obtained a CGPA of 6.5 on a ten-point scale.
- For M.A. (English) Degree holders, the minimum marks is 55 percent.
- The requirement of class and minimum marks or CGPA does not apply if the qualifying degree is M.S. (By Research).
- For S.C. / S.T. candidates: second class with a minimum of 55 percent marks is permissible.

Eligibility for M.S. (By Research) Admission

The candidate should have the minimum educational qualification mentioned below or any other equivalent qualification as approved by the Board of Management.

S.No.	MS (by research) programme in	Minimum Qualification
1.	Engineering / Technology	B. E. / B. Tech. or A. M. I. E. / A. M. Ae. S. I. or M. Sc. in relevant subjects
2.	Management Science	Master's Degree in Commerce / Economics / Psychology / Statistics / Applied Mathematics or B.E. / B. Tech. in any branch of engineering

The candidate should have passed the qualifying examination mentioned alongside with first class.

- If no class is awarded in the qualifying examination then the candidate should have obtained a minimum of 60 percent marks or a CGPA of 6.5 on a ten-point scale.
- Candidates with teaching or industrial experience of more than six years may be admitted with a second class or a minimum of 55 percent marks.
- For S.C. / S.T. candidates: Second class with a minimum of 55 percent marks is permissible.

Eligibility Criteria for M. Phil. Admission

At the time of admission the candidate should have passed his / her postgraduate degree in the related branch of study with minimum 60% marks or a CGPA of 6.5 on a ten point scale. For M.A. (English) degree holders, the minimum marks are 55%.

Monitoring/ Doctoral Committees

There shall be a committee for each research scholar to monitor the progress of scholar's work. It is to be constituted by Director (Research) within one month after registration with inputs from Research Supervisor(s) and Head of concerned Department. The Doctoral committee meeting will be conducted once in a year to review the progress.

M.S. (By Research)	Ph.D.
Supervisor - Convener	Supervisor - Convener
Co-Supervisor, if any - Member	Co-Supervisor, if any - Member
Head of the Department – Member	Head of the Department – Member
Internal Expert (Faculty) - Member	Internal Expert - Member
External Expert (Faculty from allied Department) - Member	External Expert (outside of University) - Member
Dean (Research) – Chairman	Dean (Research) – Chairman

ADMISSION PROCEDURES AND GUIDELINES

Course Work

- Each scholar has to undergo the course prescribed by the Monitoring/ Doctoral Committee from the date of registration. The courses shall be selected from the regular courses offered by the University at Master's level.
- The regular courses need to be compulsorily attended by the scholar and examination taken along with regular students in consultation with COE, and seek approval from Office of Director (Research).
- For courses not on offer by the university, the syllabi to be designed by the respective Department and credits assigned in consultation with COE and approval from the respective Board of Studies.
- Prescribed Course work to be completed at the earliest (preferably within one year from the date of registration) so that relevant research work can be initiated after acquiring the basic foundation required for the research work.
- Minimum 'C' grade in each of the prescribed course and a minimum CGPA of 6.5 of all courses is mandatory.

For M.S [By Research] & Ph.D Candidates

Step I

- Candidates shall submit the Proforma for Registration along with Joining Report and Proposed Topic (Brief Description 1 page – Detailing Why and How?) based on which Provisional Registration will be issued by Office of Director- Research.

Step II

- Doctoral / Monitoring Committee will be formed and a meeting will be held with the Candidate in which the Course work relevant to topic of research will be suggested by Committee.
- The Course work has to be completed within one year for Full-time and two years for Part-time candidates in case of MS (by Research) candidates and within 4 semesters for Full-time and 6 semesters for Part-time in case of Ph.D candidates.
- A minimum of 'C' grade is mandatory for each course.
- If the registrant fails even in a second attempt their registration will be cancelled (second chance only for the registrant completed within a limited period)

Step III

- Comprehensive Viva to be completed within 2 yrs
- Syllabus to be framed by Research Supervisor(s) and Head of the Department on the fundamentals of the broad area of specialization and course work.
- After successful completion of Comprehensive Viva candidacy may be confirmed.
- If the candidate fails, may be allowed to reappear within 6 months.
- If the candidate fails in second attempt also, then registration will be cancelled

Step IV

- For M.S. one publication in refereed International Conference is mandatory. For Ph.D. two publications in refereed Journal is mandatory.
- Colloquium in respective School - minutes, attendance sheet to be sent to Office of Director (Research).
- Draft copy of Synopsis to be approved by the Monitoring Committee.
- After Synopsis approval meeting, candidate should submit 6 copies of Synopsis to the Office of Director (research) in the prescribed format.
- Submission of 5 copies of Thesis to the Office of Director (research) in the prescribed format within 3 months from the date of submission of Synopsis.
- Once the Report of Evaluation by External Examiner is received Final Viva-Voce will be conducted.
- Award of the Degree.

Duration

- Minimum 2 yrs. and maximum 4 yrs in case of MS (By Research) and minimum 3 yrs. & maximum 6 yrs in case of Ph.D. Candidates

Mandatory Requirements

- Fees to be paid every year from the date of registration (till the submission of Thesis)
- Copy of receipt to be submitted to Office of Director (Research) to facilitate processing.

ADMISSION PROCEDURES AND GUIDELINES

- Every 6 months, registration on the date indicated by the Office of Director (Research).
- Submission of progress report for the last six months with recommendations from concerned Research Supervisor(s) and Department.

For M.Phil Candidates

Step I

- Candidates shall submit the Proforma for Registration along with Joining Report and Proposed Topic (Brief Description 1 page – Detailing Why and How?) based on which Provisional Registration will be issued by Office of Director- Research.

Step II

- Course work and Research Topic - Prescribed by Research supervisor & Head of concerned Department (3 courses and a seminar), to be approved by Office of Director (Research)

Step III

- Successful completion of Coursework, Dissertation work is to be carried out and then submitted.

Step IV

- Desirable for candidate to have publications in refereed Journal
- Colloquium in respective school.
- Synopsis of Dissertation to be submitted to Dean (Research). After acceptance by Office of Director (Research) the dissertation] will be sent to Examiner for evaluation.
- Once the Report of Evaluation by External Examiner is received Final Viva-Voce will be conducted.
- Award of the Degree.

Duration

- Full Time - minimum 1 yr and maximum 1½ yrs.
- Part Time - minimum 1 yr and maximum 2 yrs.

Mandatory Requirements

- Fees to be paid every year from the date of registration (till the submission of Dissertation)
- Copy of receipt to be submitted to Office of Director (Research) to facilitate processing

Guidelines for all Research Scholars

- The Scholars should compulsorily attend and present papers in National and International Conferences.
- Code of Ethics to be followed from the date of enrollment in the University. An Undertaking will be executed for the same.
- All research scholars must wear formal attire for all official engagements including all review meetings.
- All Scholars will attend communication and soft skills program compulsorily.

GENERIC TRAINING PROGRAMME

Generic (or transferable) skills are essential which the researchers should develop over the course of their study (i.e. career management, problem solving, teamwork and leadership) in addition to their research skills which will enhance their employability whether in or out of academia. A Research degree is the beginning of a career with a research viewpoint and with new thinking and analytical skills. Future opportunities will require people not only with high level research skills but also who are good managers, decision makers, thinkers and communicators.

The training programme is a series of events designed to support all researchers by introducing a variety of research skills and techniques that will help them to progress successfully through the research degree studies and also equip the researcher for a future career. The various sessions are designed so as to bring together researchers from varied disciplines, to foster discussion and to develop research and transferable skills associated with the processes of effective career management.

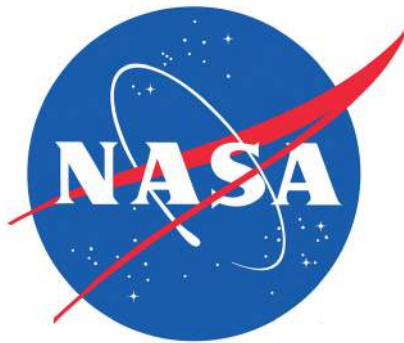
The training program aims to enhance the effectiveness of the researchers by building their understanding, skills and confidence in communication, planning and time management, leadership and assertiveness. At the end of the generic training component of the programme the researchers would be able to demonstrate original, independent and critical thinking, apply effective project management through the setting of research goals, set realistic and achievable career goals, identify and develop ways to improve employability and appreciate the need for and show commitment to continued professional development.

List of Seminars:

- How to be an Effective Researcher
- Role of Literature Review
- Research Methodology
- Health and safety in research
- Importance of Planning
- Research oriented writing skills
- Statistical Analysis for Researchers
- Ethics in Research
- ENDNOTE and Scientometric Analysis
- Editing a PhD Thesis using LaTeX
- To prepare a Research Degree Submission
- Viva and process of Research Degree Examination
- Publicizing your research



HINDUSTAN-NASA ACHIEVEMENTS



HINDUSTAN UNIVERSITY STUDENTS ACHIEVEMENT AT NASA COMPETITIONS



Hindustan University students won this distinctive contest under the NON-US category based on innovative and creative team work. They designed an Amphibious Tilt Rotor for Rescue Operations, Subsonic Rotary Wing under Tilt Rotor Design Competition organized by NASA, USA.

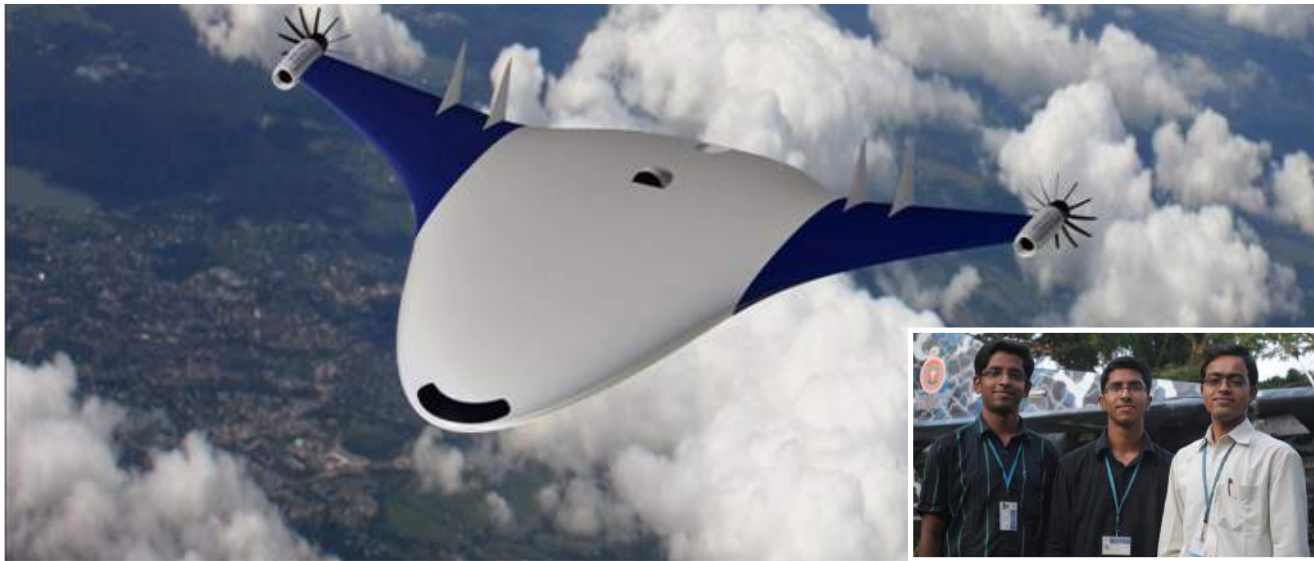


A 9 member team "SUAVE" from the School of Aeronautical Sciences, Hindustan University, participated in the 2013 AERO DESIGN WEST competition held at Los Angeles, USA. This prestigious International competition was conducted by the Society of Automotive Engineers (SAE International) from 12 to 14 April 2013. Hindustan University was ranked 9th place in the Design and Analysis Concept of the 29 teams in the Micro class category

HINDUSTAN-NASA ACHIEVEMENTS

DISTINCTION :

Hindustan University students won the first place in the Non-US category at NASA Environmentally Responsible Aviation (ERA) Project in which around 250 teams participated. The aircraft named as Aura Mithra, was formulated with the vision of developing the next generation air transportation system potentially achieving lesser fuel burns, noise and emissions, hence making the future eco-friendly.



The exuberant team of makers of Aura Mithra from Hindustan University Chennai
(standing from left : NIKHIL JOHN, ARAVIND SASIKUMAR & MANISH KUMAR)



RARE DISTINCTION - NASA RESEARCH BASED INTERSHIP PROJECT

Ms. Jayashree Sridhar, Department of Aeronautical Sciences, student at Hindustan University has done her research project based on lunar and planetary science at NASA Johnson Space Centre, Texas in the Astromaterials Research and Exploration Science office. She worked on the lunar samples brought by the astronauts during the Apollo mission, that is definitely the greatest achievement of mankind. She also met distinguished astronauts, a rare distinction, one would wonder to have cherished such dream.

DISTINGUISHED INTERNATIONAL ALUMNI AND AWARDEES

Hindustan University awards the Degrees HonorisCausa during the University Convocation every year, to eminent personalities and esteemed professionals, in recognition of their outstanding achievements. Distinguished individuals who received these awards till date and their citations are mentioned hereunder.

1. Dr. Vijay Kumar Saraswat

Scientific Advisor to RakshaMantri, Secretary and DG, DRDO, Ministry of Defence, Government of India, New Delhi

Awarded Doctor of Science (HonorisCausa) during the Second Convocation

- For his innovative breakthrough in the field of missile technology.
- For his outstanding contribution towards indigenous missile development programs.
- For his visionary outlook, initiative and drive towards developing world class strategic Defence Technologies, which have made our country globally proud and paved way for India to become a super power.



2. Dr. Abdul Razzaq Ali Issa Al Sabbagh

Chief Executive Officer, Bank Muscat, Sultanate of Oman, Muscat

Awarded Doctor of Letters (HonorisCausa) during the Second Convocation

- For his single-minded devotion and distinctive contribution to the banking sector.
- For his vision and determination in bringing the finest of global banking products and practices to the country.
- For his role in establishing the Bank Muscat as a premier financial institution in the Sultanate of Oman and across the global financial community.



3. Dr. M. Narendra

Chairman and Managing Director, Indian Overseas Bank, Chennai

Awarded Doctor of Letters (HonorisCausa) during the Third Convocation

- For his distinctive role in transforming the Bank into Core Banking Unit and handling critical Business Units such as Rural Development and Priority Sector.
- For his conceptual clarity, dynamic leadership and ability to transform and enhance global business phenomenally.
- For his uncompromising work ethics, positive attitude and dedicated service to the Banking sector in India.



4. Dr. (Mrs.) Mallika Srinivasan

Chairman and Chief Executive Officer, Tractors and Farm Equipment (TAFE) Limited, Chennai

Awarded Doctor of Letters (HonorisCausa) during the Third Convocation

- For distinguishing herself as a businesswoman par excellence in the competitive business world and putting India on the world map, as a global player in Tractor manufacturing
- For her ability to evolve innovative products and processes, to surmount and transform difficult situations into profitable opportunities
- For her deep commitment to core values of integrity and ethics and her thorough professionalism



5. Dr. V. Sumantran

Vice- Chairman, Ashok Leyland, Chennai

Awarded Doctor of Letters (HonorisCausa) during the Fourth Convocation, in recognition of his meritorious and outstanding achievements in the following areas.

- For his innovative Research in Automobile Engineering
- For his leadership of the Tata Motors in realizing the famous "NANO"
- For his services to the Scientific Advisory Committee to the Indian Government
- For his leading the National Defence Council of Confederation of Indian Industry



DISTINGUISHED INTERNATIONAL ALUMNI AND AWARDEES

To Commemorate the 73rd birth anniversary of Dr. K.C.G. Verghese , Founder Chairman of the Hindustan Group of Institutions, the Dr. K.C.G. Verghese Excellence Awards 2013 was instituted by the Group to recognize the efforts of the leaders in business and other fields whose work resonated with the visionary outlook of the Late Founder Chairman . A memoir on the journey of K.C.G. Verghese and his contribution to the aviation and education industry was presented in a grand ceremony that was held on June 29, 2013.

6. Padmashree Mr. Priyadarshan

The Excellence award in the field of culture and entertainment was given to eminent film Director, Producer and Screenwriter S. Priyadarshan Nair for immeasurable social contribution through his inspirational films.



7. Mr. Troy Justice

The excellence award in the field of sports was presented to Troy Justice, Senior Director, Basketball in India and for assisting 8 levels Basketball Federation of India (BFI).



8. Munirathnam Jawaji

The Aluminus Excellence Award was given away to Munirathnam Jawaji, Director, Assystem India, for being an iconic brand in representing values of Hindustan Group to the world and carrying forward the founders vision "To make every man a success and no man a failure."



9. Tan Sri Tony Fernandes

Dr. Tony Fernandes was honoured with the Lifetime Achievement Award for his contribution to the field of aviation, trade and commerce, hospitality, sports and the promotion of international association in addition to his contribution to Malaysia's growth and development.



10. Dilip R. Vellodi

Dillip R. Vellodi, Chairman and CEO of Sutherland Global Services was presented with the Excellence Award for Business for his outstanding contribution to the industry through his innovative ideas. On behalf of Dillip R. Vellodi, the Award was collected by K.S. Kumar, Head of Global Operations, Sutherland Global Services.



RESEARCH SCHOLARSHIP & AWARDS

HINDUSTAN RESEARCH FELLOWSHIP (HRF)

To promote research and attract Full time Research Scholars, Hindustan University has instituted Hindustan Research Fellowships (HRF) for eligible candidates. The fellowships are available for Full time Research Scholars registered for Ph.D., M.Phil. and M.S. by Research.

1. Eligibility:

Scholarship is available only for Full time Scholars.

A) Minimum marks (at UG and PG level) required for consideration for HRF (Ph.D. Scholars)

(i) Engineering & Technology: 75% mark & above or CGPA-8 (OR) GATE qualified (OR) 65% mark & above or CGPA-7 with good publication.

(ii) Science: 70% mark & above or CGPA-7.5 (OR) NET qualified (OR) 60% Mark & above or CGPA-6.5 with good publication.

(iii) Humanities: 65% mark & above or CGPA-7.0 (OR) NET qualified (OR) 55% mark & above or CGPA-6.0 with good publication.

B) Minimum marks (at UG / PG level) required for consideration for HRF for Scholars registered for M.Phil. and M.S. by Research

i) Engineering & Technology: 70% mark & above or CGPA-7.5.

ii) Science: 65% mark & above or CGPA-7 in both B. Sc. & M. Sc.

iii) Humanities: 60% mark & above or CGPA-6 in both B. Sc. & M. Sc.

2. a) Scholarship for Doctoral Candidates:

Rs. 18,000 to Rs. 25,000.00 per month (*Conditions Apply)

b) Scholarship for M.Phil. & M.S. By Research Candidates:

Rs. 12,000.00 per month (*Conditions Apply)

Founder's Award for Best Research Scholar



Founder's Best Research Scholar Award carries a Cash Prize and a Certificate.

The awardees are eligible to be considered for financial assistance from university to attend International / National Conferences.

Eligibility Criteria:

1. The scholar is eligible after one year of registration.
2. Scholar should be GATE / NET Qualified or should have secured more than 8.0 CGPA in UG and PG Engineering Courses or 75% marks in UG & PG courses in Science, Management or Humanities.

3. The Supervisor's Recommendation for award is mandatory.

4. Recommendation from relevant Industry Expert is required.

5. Short listed candidates shall make a presentation before a panel of experts (Selection will be based on the following criteria):

- Subject Knowledge
- Capability to Teach
- Presentation Skills
- Communication Skills
- Analytical Skills



Chancellor's Award for Best Woman Research Scholars:

The Chancellor's Award is being instituted to encourage and motivate Women Research Scholars.

The award will be given to the best Women Research Scholars.

The eligibility will be same as Founder's Best Research Scholar Award (*Conditions Apply).



DISTINGUISHED AWARDS



Dr. Elizabeth Verghese, Chairperson, Hindustan Group of Institutions receiving Eminent Engineer of the Nation Award from Dr. S.S. Rathore, President, Institution of Engineers during the 28th Indian Engineering Congress.



Edupreneur Award 2013 - The Times Group of India, given by Dr. Rosaiah, Honourable Governor of Tamil Nadu to Dr. Anand Jacob Verghese, Director & CEO, Hindustan Group of Institutions in recognition of exemplary commitment and contribution to education in Tamil Nadu on 28th September 2013 at Hotel Taj, Chennai



Mr. Ashok Verghese, Director, Hindustan University receive Honourable Chief Minister of Kerala amidst Shri. Thiruvanchoor Radhakrishnan



receiving Excellence Award from **Shri. Oommen Chandy**,
Radhakrishnan (Sports Minister) & **Shri. V. S. Sivakumar** (Health Minister)

CONTACT INFORMATION

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For Admission / General Queries

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