



INSTITUTE OF SCIENCE AND TECHNOLOGY

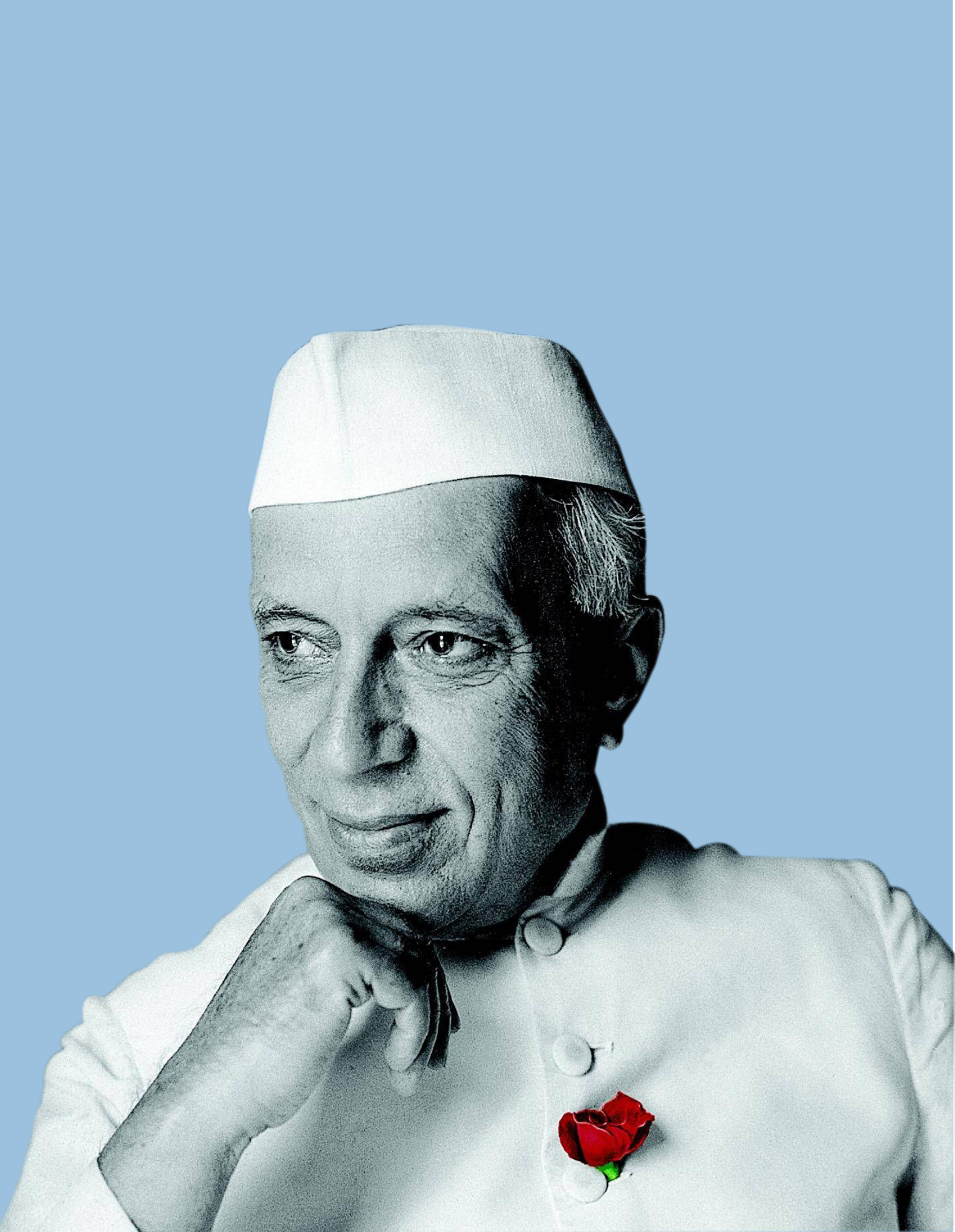
(Autonomous)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

(Accredited by NAAC with 'A' Grade)

Kukatpally, Hyderabad - 500 085 Telangana, India
Ph: + 91 40 23156128 Web : www.jntuhist.ac.in



Contents

Message from Vice - Chancellor	3
Director's Desk	4
Preamble	5
Hierarchical Structure of the IST	6
Origin & Milestones	6
Centres of IST	7
Vision and Mission	7
IST Recognitions At a Glance	8
Curriculum Design and Development	8
IST Programmes	9
Admission Process	10
Publications	11
Research Grants and Patents	12
National and International Awards	13
TEQIP of JNTUH IST	13
Centre for Bio-Technology	14
Centre of Chemical Science and Technology	22
Centre for Environment	27
Centre for Nano-Science and Technology	36
Centre for Pharmaceutical Sciences	39
Centre for Spatial Information Technology	45
Centre for Water Resources	48
Centre for Earth and Atmospheric Science	52
Centre for Alternative Energy Options	54
Examination Reforms	57
Teaching Learning Methods	57
E- Library	57
University Library	58
Outreach Programs	58
Innovations and Best Practices	58
Project Work	59
Co-Curricular Activities	59
Health Centre	59
Sports and Recreational Facilities	59
Accommodation	59
Succession List of Directors	60

Message from Vice Chancellor

Jawaharlal Nehru Technological University Hyderabad (JNTUH) aspires to be recognized as India's most prestigious University. JNTUH has a progressive outlook and aims to offer the best possible education in Engineering, Science, Technology and Management. The University is known among the stake holders for its outstanding contribution and achievements in the creation of knowledge and technological advancement leading to recognition with 'A' Grade by NAAC. Originally the JNTU was established in the year 1972 and further it was divided into



Prof. A. Venugopal Reddy

four universities in 2008 and now it is renamed as JNTU Hyderabad, located at Kukatpally, Hyderabad. Apart from its four prestigious colleges at Hyderabad, Jagityal, Manthini and Sultanpur, nearly 300 Engineering and Pharmacy colleges are affiliated to JNTU Hyderabad. It also constitutes School of Information Technology, School of Management Studies, School of Continuing and Distance Education, UGC-HRDC, Bureau of Industrial Consultancy Services, and JNTUH Innovative Hub at its head quarters in Hyderabad. In order to cater to the needs of manpower requirement in the emerging areas of technologies such as Water, Environment, Biotechnology, Pharmacy, Nanotechnology, Remote Sensing and Atmospheric Sciences an Institute of Science & Technology (IST) was established in the year 1989.

The Institute of Science and Technology with its dedicated and dynamic faculty is offering several Post Graduate Programmes in the interdisciplinary areas of Science and Technology. Besides offering P.G. Programmes, the Institute is also offering doctoral programmes and is actively involved in executing several research projects and publishing research papers in peer reviewed journals of National and International repute as well as patenting and commercialization of the results obtained from the research. The Institute is continuously progressing well for the past three decades and established its brand name in the field of Science and Technology. The Silver Jubilee of this Institute was celebrated in the year 2015 to honor and commemorate its outstanding services in technical education and I am sure that the Institute will attain much greater heights in years to come.

DIRECTOR'S DESK



Prof. Bekkam Venkateswara Rao

Institute of Science and Technology JNTU University Hyderabad is one of the rare institutes in the state of Telangana and to some extent in the entire country. It is a rare in the sense that it offers only PG and Doctoral Programmes in the field of new and emerging technologies namely Biotechnology, Nano Science and Technology, Water, Environmental Science and Technology, Geospatial Technology, Chemical Science and Technology, Pharmacy, Earth and Atmospheric Sciences.

The faculty and student intake to all these sciences and technologies are very divergent from physical sciences to biological sciences and from engineering background as well. Hence it has a character of interdisciplinary as well as transdisciplinary in nature.

The institute is emerged out of schools of excellence, established in the year 1989 and it was nucleus to the PG Educations and Research of the Jawaharlal Technological University. Very soon the institute was evolved into institute of Postgraduate Studies and Research (IPGSR) in the year 1990. Since then the IPGSR was very active in offering M Tech, M.Sc, and Ph.D Programmes in all the said disciplines. The institute is renamed as Institute of Science and Technology in the year 2003 and added Nano Science, Pharmacy and Atmospheric Science disciplines in the subsequent years. All the centres have attracted sizable amount of research grants to be eligible themselves to attract World Bank funding under Technical Education Quality Improvement Programme (TEQIP).

The institute stood as one of the best performing institutes in the country under TEQIP-I, TEQIP-II and achieved a mentoring institute status in the TEQIP-III Programme. Meanwhile the institute has got autonomous status both from the university as well from the University Grants Commission (UGC). All most all programmes of the M Tech have been accredited by The National Board of Accreditation (NBA). Similarly 95 % of faculty including those on temporary assignment are having doctorates.

Being strategically located in Hyderabad, this institute has very good networking with all the relevant R&D institutes and Industries of national and international importance by having MoU's, Student projects, Doctorate registrations and continuous academia and industry interactions. I am sure that the institute will reach greater heights in the comings years, as one of the best performing PG teaching and research institutes in the country in the emerging sciences and technologies.

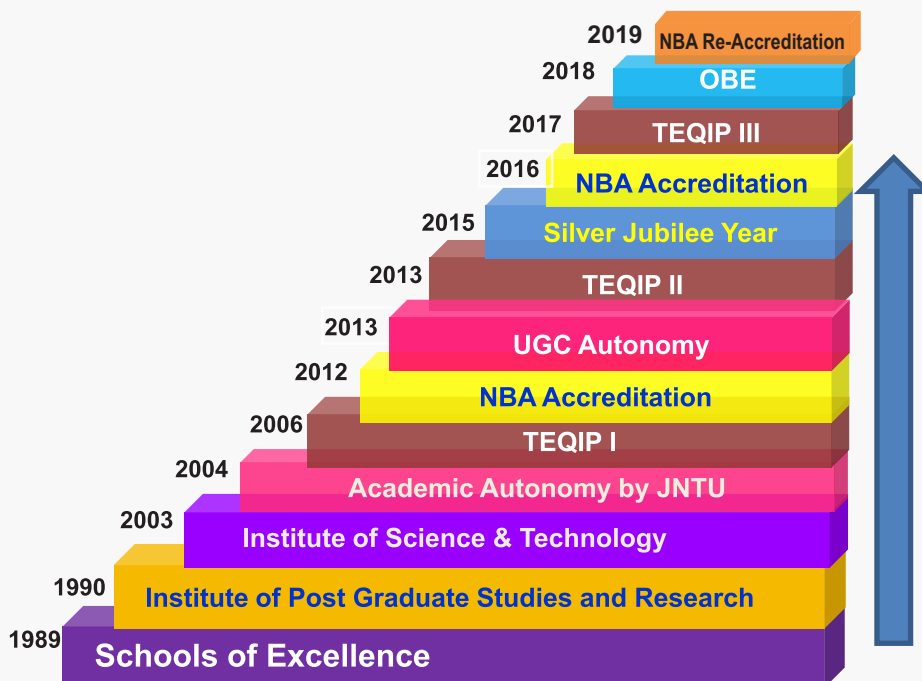
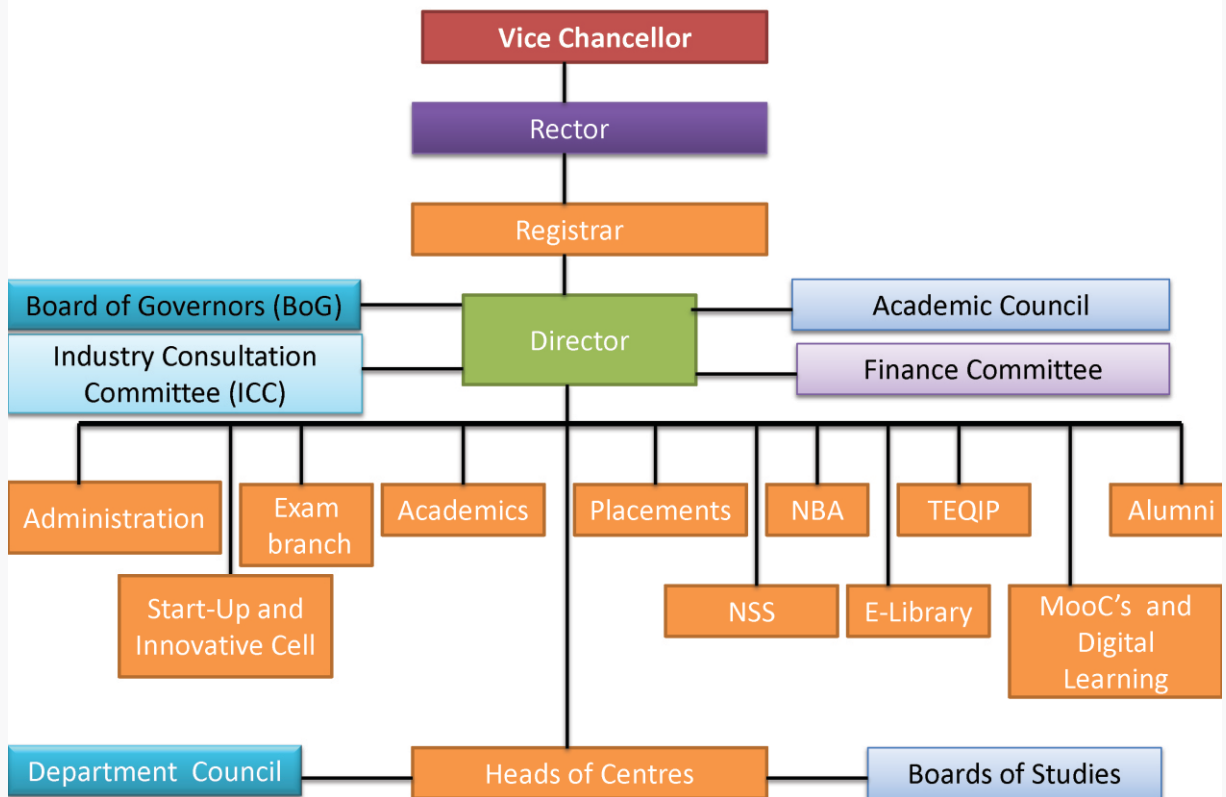


PREAMBLE
INSTITUTE OF SCIENCE AND TECHNOLOGY (IST)
(Autonomous)
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
(Accredited by NAAC with 'A' Grade)

In order to promote the advanced research and learning at post-graduate level in frontier areas of science and technology, the Institute of Science and Technology (IST) one of the academic wings of Jawaharlal Nehru Technological University Hyderabad (JNTUH), was established in the year 1990 as the Institute of Post-Graduate Studies and Research from ten schools of excellence offering post-graduate programmes in interdisciplinary areas of science and technology constituted in the year 1989. In 2003 the Institute was renamed as the Institute of Science and Technology and subsequently JNTU granted autonomous status in 2004 followed by UGC in 2013. The Institute aims at establishing itself as a centre of excellence in science and technology by providing state-of-the-art infrastructure and congenial environment for pursuing interdisciplinary post-graduate and doctoral programmes to attain sustainable development in the society. The institute has been striving to impart education that inspires innovative thoughts and inculcates positive attitudes in young minds towards their overall growth.

Since its inception, the Institute has laid balanced emphasis on the pursuit of basic knowledge as well as research and development in science and technology and its applications for industrial and societal needs. Over 30 years, since its establishment, the Institute has been striving to become one of the lead centres in advanced scientific and technological education and research in India.

Hierarchical Structure of Institute of Science and Technology



ORIGIN & MILESTONES

The centres of the Institute offer Post-Graduate and Doctoral Programmes. Most of the Post –graduate programmes are NBA/PCI Accredited. Based on the state-of-the-art infrastructure and facilities and the quality of research as evident by publications in peer-reviewed journals, and R&D projects, the Institute of Science and Technology has attracted the additional financial support from both national and international funding agencies viz., TEQIP, DST, DBT, UGC, CSIR, MoEF& CC , MOWR, AICTE, MOES, TSCOST, BARCMNRE etc. to the tune of Rs 2000 Lakhs in the last five years. Institute has successfully executed TEQIP phase I and II, during TEQIP-III, NPIU has recognized the IST as one of the mentoring Institute to mentor other national level educational institutes, like Dayalbagh Educational Institute as IST is one of the best performing Institutes among all TEQIP participating institutions in the country.

CENTRES OF IST

- Centre for Bio-Technology
- Centre for Chemical Sciences and Technology
- Centre for Environment
- Centre for Earth and Atmospheric Science
- Centre for Nano Science and Technology
- Centre for Pharmaceutical Sciences
- Centre for Spatial Information Technology
- Centre for Water Resources
- Centre for Alternate Energy Options

VISION

Imparting technical education that encourages independent thinking, develops strong domain knowledge, hones contemporary skills and positive attitude towards holistic growth of young minds.

MISSION

- Providing quality education and ethics to students
- Student centered teaching learning processes and a stimulating R&D Environment
- State of the art infrastructure for professional aspirants.

IST RECOGNITIONS AT A GLANCE

- TEQIP I (2006 - 2010) Rs. 12.5 crores
- UGC Autonomous Status 2013-2019
- DST Nano Mission (2010) Rs. 2.25 crores
- TEQIP II (2013 - 2017) Rs. 12.5 crores
- TEQIP III (2017 - 2022) Rs. 7.00 Crores
- DST-FIST supported centres (4) Rs. 2.00 Crores
- 6 out of 7 M. Tech programmes are NBA Accredited
- 3 out of 3 Pharmacy programmes are PCI Affiliated
- Singh Obama Indo-us project
- R & D Funding (2014-2019) Rs. 22.54 Crores (Appx)

CURRICULUM DESIGN AND DEVELOPMENT

- Once in every 2 Years the syllabi is Revised.
- In the year 2015 Choice Based Credit System (CBCS) is implemented to provide Academic flexibility for the students.
- Interdisciplinary programmes are offered
- Core, Elective and Foundation courses are introduced.
- All the Centres of IST are having separate Board of Studies including ICC. Latest revision of syllabi was on 2nd and 3rd May 2019.
- Alumni and industry representatives are involved during the curriculum revision meetings
- Project work is mandatory to complete the PG degree
- Credits for M.Tech/ M.Pharm - 68 credits, M.Sc - 96 credits
- Embarked on Outcome Based Education (OBE) from 2018

IST PROGRAMMES

S.No	Type of Academic Programmes offered	Name of the Academic Programmes offered	Recognitions
1	M.Tech (7)	M.Tech. (Bio- Technology)* M.Tech (Chemical Technology) M.Tech. (Environmental Geomatics) M.Tech.(Environmental Management)* M.Tech. (Nanotechnology) M.Tech. (Spatial Information Technology) M.Tech. (Water & Environmental Technology)	NBA Accredited NBA Accredited NBA Accredited NBA Accredited NBA Accredited Applied for NBA Accreditation NBA Accredited
2	M. Pharmacy (3)	M. Pharmacy (PA & QA) M. Pharmacy (Pharmaceutics) M. Pharmacy (Pharmacognosy)	PCI Approved PCI Approved PCI Approved
3	M.Sc (4)	M.Sc (Biotechnology) M.Sc (Micro Biology) M.Sc (Organic Chemistry) M.Sc (Analytical Chemistry)	Students from M.Sc. programmes got INSPIRE Fellowship from DST, GoI.
4	Ph.D (8)*	Biotechnology, Chemical Engineering, Chemistry, Earth and Atmospheric Science Environmental Science and Technology, Nano Science and Technology, Pharmacy, Spatial Information Technology , Water Resources	No. of Ph.D Awarded : 517

*These programmes are also offered as part time mode also.

ADMISSION PROCESS

Admissions into Regular PG programmes in Engineering, Technology and Pharmacy (M.Tech. / M.Pharmacy) are made from GATE/GPAT. Remaining seats are filled by PGECET, conducted by Telangana State Council of Higher Education (TSCHE), a statutory body of the Government of Telangana State, Hyderabad.

Admission to M.Tech. / M. Pharmacy Programmes is divided into three categories:

Regular Stream: - AICTE Scholarship / Stipend will be provided to the GATE qualified candidates.

Sponsored Category: - The candidates must have two years of work experience and must be sponsored by the organization, where he / she is working presently.

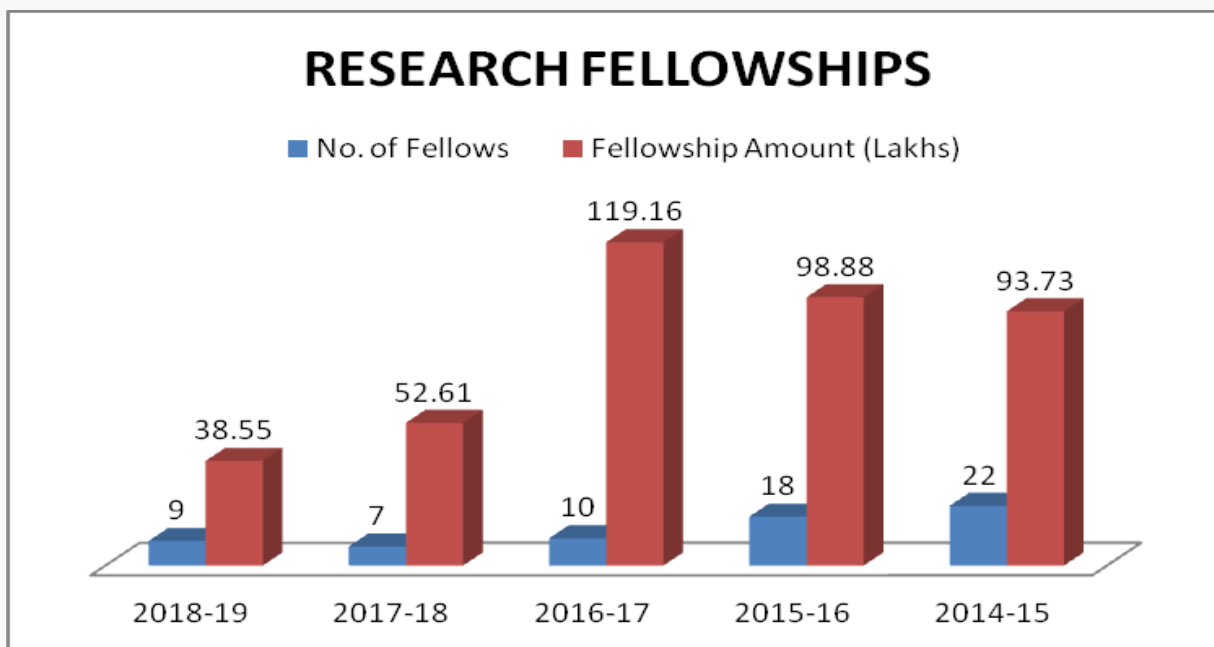
Non-sponsored (self supporting):- Preference will be given for GATE and PGECET qualified candidates under non-sponsored category; however, they are not eligible for Scholarship.

Admission to regular M.Sc programmes will be made on the basis of performance in the Entrance Examination conducted by Telangana State Council of Higher Education (TSCHE).

Admission to Part-time M.Tech. Programmes will be made on the basis of performance in the Entrance Examination conducted by JNT University Hyderabad. Candidates employed on regular service basis in and around Hyderabad and having an experience of at least one year after acquiring the prescribed qualification, are only eligible to apply

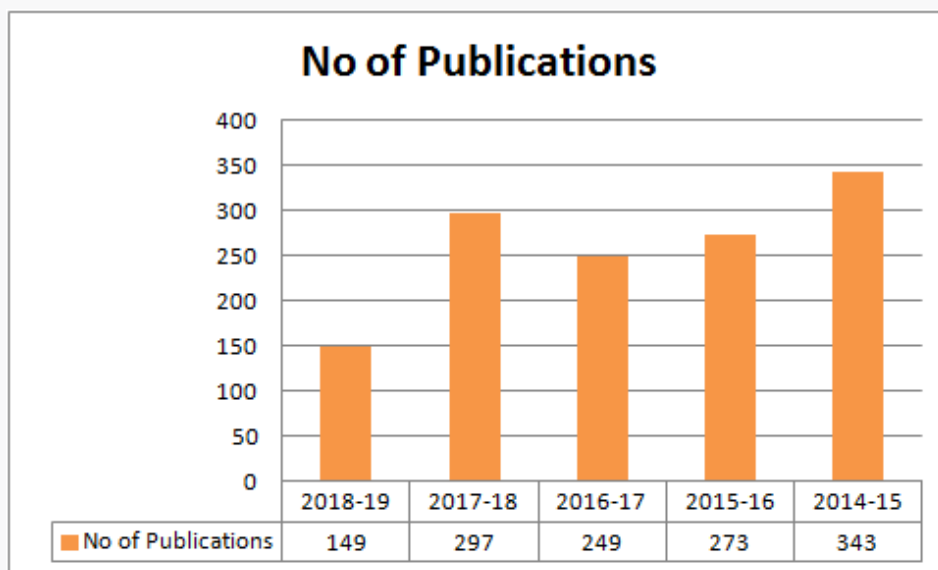
Admission to External Ph.D. / M.Phil. / M.S. Research Programmes will be made on the basis of Entrance Examination and Interview conducted by JNTUH, Hyderabad. The candidates who qualify in NET / SLET need not sit for the written test. However, they should get through the interview process to get admission to regular Ph.D.

RESEARCH FELLOWSHIPS AVAILABLE



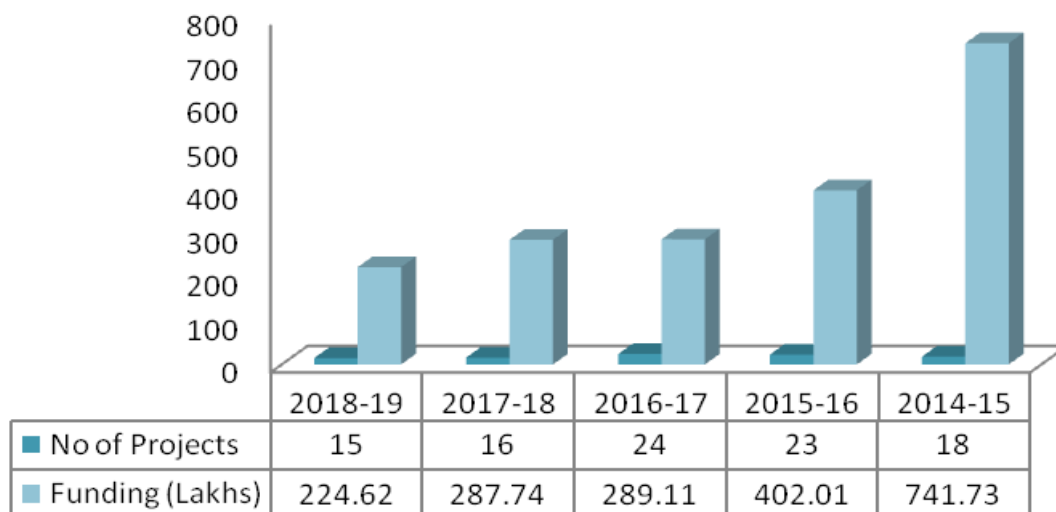
Funding Agencies: UGC: RGNF- MANF-PDF-NFSC-OBC-MRP-RA, DBT-PDF, Kothari-PDF, TEQIP-II, TEQIP-III, CSIR, DST: WOSA-Inspire Faculty, MNRE, ICAR, MoES

PUBLICATIONS DURING LAST FIVE ACADEMIC YEARS:



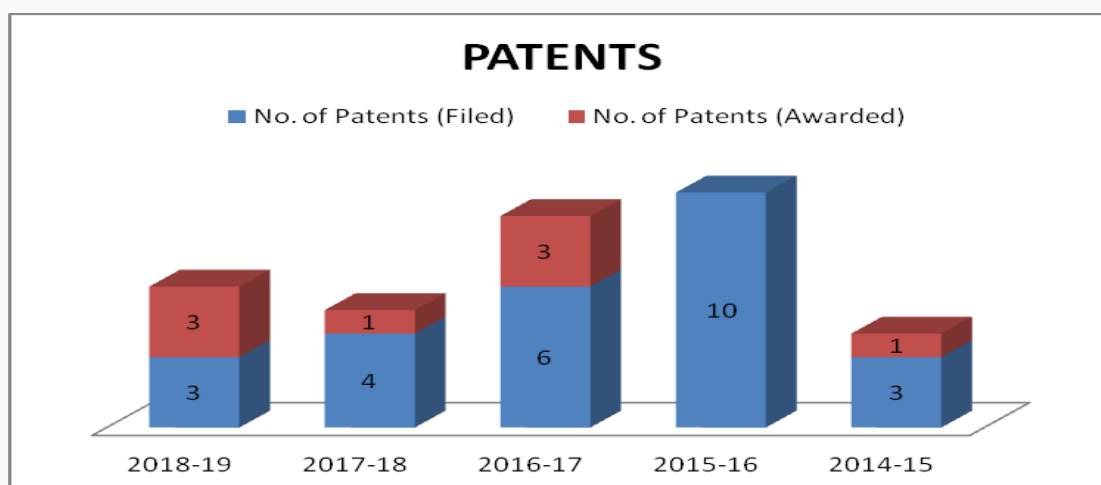
Academic Year	No of Projects	Funding Rs. (in Lakhs)	Agency
2018-19	15	224.62	Earthwatch, TEQIP-III, Agastya Agro Ltd., DBT, HPCL, UGC, CSIR
2017-18	16	287.74	TSCOST, Ordinance factory, Eco-wash, INDO-US JCERDC, DBT, HPCL, TEQIP-III, UGC, R & D Industry, DST, MSME
2016-17	24	289.11	UGC-Raman Post Doctoral Fellowship, INDO-US JCERDC, DBT, HPCL, TEQIP-III UGC, DST, TEQIP-II, AICTE-MODROBS
2015-16	23	402.01	TEQIP-II, INDO-US JCERDC, DBT, UGC, DST, MNRE, AICTE, DST-NPCS, DST-NRDMS
2014-15	18	741.73	DST-FIST, DST-SERB, AICTE, DST Nanomission, INDO-US JCERDC, DBT, DST, MNRE, AICTE, CSIR, UGC-BSR Faculty fellow, BARC-BRNS, MOES
Before 2014 from Inception	112	2206.5	AICTE : MODROBS-RPS, UGC-MRP -SAP, MHRD, Govt. of AP, IWMI, DST, Ministry of Water Resources & TEQIP-II, CGWB, Earthwatch international NGO, Institute of Engineers INDIA (KOLKATA), DST-SERB, DST Nanomission, DBT, INDO-US JCERDC, MNRE, TIFAC, TEQIP-I, CSIR, DRDO, BARC, PETL, UCIL, Environmental solution Pvt Ltd., Forest dept. MOEF, APPCB, DRDA, Ministry of Rural Dept., DST-DAD, DOD, SOM-phytopharma, MOES...etc.

RESEARCH GRANTS



Funding Agencies: UGC:RGNF- MANF-PDF-NFSC-OBC-MRP-RA- Raman Post Doctoral Fellowship- BSR Faculty, DBT-PDF, Kothari-PDF, TEQIP-II, TEQIP-III, CSIR, DST-WOSA-Inspire Faculty- NRDMS- FIST-SERB, MNRE, ICAR, MoES, Earthwatch, Agastya Agro Ltd, HPCL, TSCOST, Ordinance factory, Eco-wash, INDO-US JCERDC, MSME, AICTE –MODROBS, BARC-BRNS

PATENTS AWARDED/ FILED



NATIONAL AND INTERNATIONAL AWARDS FOR THE FACULTY (2013-2019)

- INSA Teacher Award for 2016 (Prof. B. Venkateswara Rao)
- Prof. B.N. Johri award on microbial diversity association of microbiologists of India for 2016 (Prof. Ch. Sasikala)
- Raman Fellowship form UGC Post Doctoral Research for 2016 (Dr. K. Venkateswara Rao)
- Endeavour Awards Ambassador from Australian Government for 2015 (Prof. M. Lakshmi Narasu)
- State Award for Meritorious Teachers: 6 (Prof. M. Anji Reddy - 2012, Prof. M. Vishwanadham - 2014, Prof. M. Lakshmi Narasu - 2014, Prof. B. Venkateswara Rao - 2015, Prof. A. Jaya Shree - 2016, Prof. Ch. Sasikala - 2016, Prof. K. Venkateswara Rao - 2017)
- Bharat Ratna Sir Mokshagundam Visvesvaraya Award, Institute of Engineers for 2013 (Prof. M. Anji Reddy)
- National Geoscience award for 2011 (Prof. B. Venkateswara Rao) received in 2013

NATIONAL AND INTERNATIONAL RECOGNITIONS

- Selected as UGC BSR Faculty Fellowship (Prof. K. Mukkanti - 2014, Prof. M. Lakshmi Narasu - 2017)
- Elected as President for Association of Global Ground water Scientists for the period 2016-2019 (Prof. B. Venkaeswara Rao)
- Appointed as member Institutional Bio Saftey committee 2015 (Prof. CH. Sasikala)
- Govt. Analyst by Central Pollution Control Board, New Delhi (Prof. V. Hima Bindu, Prof. Ch. Sasikala)
- Faculty members placed among top hundred researchers of India for the year 2011-2013 by OUTLOOK group Careers 360 magazine (Prof. K. Mukkanti, Prof. Ch. Sasikala)

FELLOWSHIP OF ACADEMIES

- Elected Fellow of Institution of Engineers 2018 (Prof. B. Venkateswararao Rao)
- Elected Associate Fellow of AP and Telangana Academy of Sciences in 2018 (Dr. CH. Shilpa Chakra)
- Fellow of Royal Society of Chemistry, U.K in 2017 (Prof. A. Jaya Shree)
- Elected Fellow of Telangana Academy of Sciences in 2016 (Prof. A. Jaya Shree, Prof. K. Mukkanti, Prof. Ch. Sasikala)
- Elected Fellow of Indian Geophysical Union 2013 (Prof. B. Venkateswararao)
- Elected Fellow of AP Academy of Sciences in 2012, 2013, 2014 (Prof. M. Anji Reddy, Prof. K. Mukkanti, Prof. B. Venkaeswara rao)

TEQIP of JNTUH IST

JNTUH IST is a part of the prestigious MHRD project namely TEQIP (Technical Education Quality Improvement Programme) by World Bank . TEQIP Phase -I is successfully completed in the year 2010. TEQIP-II was completed in the year 2017. During TEQIP-I, an amount of Rs.12.5 Crores has been allocated for overall development of the institute which includes equipment, faculty development, student support etc. The Institute successfully carried out the project with very good progress in the human resource and student progression. During TEQIP - II the institute has utilized Rs. 10.5 Crores and achieved all the key performance indicators laid by the world Bank. The institute has been one of the best performing institutions in India. With the successful implementation of the TEQIP Phase I and II, JNTUH IST is selected for the TEQIP-III as a mentor Institute. Dayalbagh Educational Institute, Agra has been allocated as the Mentee Institute for JNTUH IST. On 22nd July 2017 JNTUH IST has entered an agreement with the Dayalbagh Educational Institute, Agra for mentoring under TEQIP-III. An amount of Rs 7 Crores has been sanctioned for TEQIP-III of JNTUH IST.

CENTRE FOR BIOTECHNOLOGY (DST FIST Supported Centre)

ABOUT THE CENTRE

Centre for Biotechnology (CBT) was established in the year 1989 with a mission to disseminate knowledge in the field of Biotechnology and allied areas through teaching and learning process. Biotechnology is the thrust area of the 21st century and is considered as the fast growing discipline across the world. The faculty members of the centre are actively involved in both teaching and research.

PROGRAMME(S) OFFERED

M.Tech (Biotechnology) : NBA Accreditation (2012-2017) and Re-Accreditation (2018-2021)

M.Sc. (Biotechnology)

M.Sc. (Microbiology)

Ph.D (Biotechnology)

MAJOR NATIONAL & INTERNATIONAL PROJECTS

Academic Year	No. of Projects	Funding (Rs) in Lakhs	Agency
2018-19	08	124.72	DBT, HPCL, TEQIP-III , UGC
2017-18	09	220.14	DBT, TEQIP-III, UGC
2016-17	14	218.26	DBT , HPCL, DST, TEQIP-II, UGC
2015-16	16	273.19	DBT, DST, TEQIP-II, UGC, MNRE, AICTE
2014-15	06	241.96	DBT, INDO –US JCERDC, MNRE, AICTE, DST
Before 2014 from Inception	23	384.44	DBT, MNRE, AICTE, DST, TIFAC, UGC, MHRD, TEQIP-I, CSIR

LAST FIVE ACADEMIC YEARS DATA:

Academic Year	No. of Publications	No. of Patents Filed	No. of Patents Awarded	No. of Conference/Training Programs organized
2018-19	21	01	-	04
2017-18	35	-	-	01
2016-17	55	-	-	01
2015-16	39	01	-	01
2014-15	50	03	01	02
Before 2014 from Inception	122	01	-	15



FELLOWSHIPS IN THE CENTRE IN LAST FIVE YEARS

Academic Year	No. of Fellows	Agencies(DST,UGC,AICTE,etc)	Fellowship Amount (in Lakhs)
2018-19	02	CSIR-SRF, DSK-PDF	11.33
2017-18	03	UGC, DST, WOS-A, DST-NPDF	17.60
2016-17	03	UGC - PDF, RGNF	15.84
2015-16	03	DST, UGC	11.52
2014-15	07	UGC, DST WOS-A, RGNF	23.52

LIST OF LABORATORIES

Molecular Biology/Genetic Engineering, Microbiology/Biochemistry laboratory, Plant Molecular Biology/Plant tissue culture laboratory, Bioinformatics, Animal Cell Culture, Bioprocess Engineering, Biochemical reaction engineering laboratory, Chemical reaction engineering Laboratory, Enzyme technology Laboratory, Fluid mechanics laboratory, Advanced Biofuels, DST – FIST Lab (Animal Cell line Metabolimics).

LIST OF MAJOR EQUIPMENT

Real-Time RT PCR, Gel Documentation System, Autoclave, Microscopes, BOD Incubator, HPLC, Deionization water systems, Biosafety cabinet, CO2 incubator, Bioreactors of different capacities (5L,10L,14L), HPLC with ELSD and PDA detectors -04, Automated UV –Visible spectrophotometer-02, ELISA reader-01, Lyophilizer (Shelf type)-01, AKTAPRIME Protein Purification system-01, -80o Freezer, FTIR.





FACULTY DETAILS:



Dr. A. Uma

Assistant Professor & Head

Teaching Experience: 22 Years

Research Experience: 15 Years

No. of Publications : 100

No. of Books : 05

No. of Patents : 04

No. of Ph.Ds Guided : 06

No. of Ongoing R&D Projects : 03

No. of Completed R&D Projects : 07

No. of Conferences/ Workshops/ Trainings attended : 26

Areas of Research: Cell Culture & Microbial Enzymes



Dr. M. Lakshmi Narasu

UGC-BSR Faculty Fellow

Teaching Experience : 32 Years

Research Experience : 32 Years

No. of Publications : 280

No. of Books : 05

No. of Patents: 01

No. of Ph.Ds Guided : 92

No. of Completed R&D Projects : 18

No. of Conferences/ Workshops/ Trainings attended : 32

Areas of Research: Cancer Biology



Dr. Archana Giri

Professor & BoS Chairperson

Teaching Experience : 23 Years

Research Experience : 25 Years

No. of Publications : 110

No. of Books : 01

No. of Ph.Ds Guided : 11

No. of Ongoing R&D Projects : 02

No. of Completed R&D Projects : 10

No. of Conferences/ Workshops/ Trainings attended : 70

Areas of Research: Plant Biotechnology, Metabolic Engineering & Plant Molecular Farming



Dr. L. Saida

Assistant Professor & Addl. Controller of Examination

Teaching Experience: 13 Years

Research Experience: 13 Years

No. of Publications: 20

No. of Books: 01

No. of Ph.Ds Guided: 04

No. of Ongoing R&D Projects : 01

No. of Completed R&D Projects : 02

No. of Conferences/ Workshops/ Trainings attended : 40

Areas of Research: Enzyme Production & Fermentation Technology

FACULTY DETAILS:



Dr. CH. Kalyani

Assistant professor (C)

Teaching Experience : 10 years

Research Experience: 9 years

No. of Publications: 13

No. of Conferences/ Workshops/ Trainings attended: 10

Areas of Research: Cancer Biology



Dr. K. Venkateswar Reddy

Assistant Professor (C)

Teaching Experience : 10 years

Research Experience: 10 years

No. of Publications: 25

No. of Conferences/ Workshops/ Trainings attended: 20

Areas of Research: Microbial Enzymes & Products



Dr. B. Suresh Babu

Assistant Professor (C)

Teaching Experience : 08

Research Experience: 06

No. of Publications: 06

No. of Conferences/ Workshops/ Trainings attended: 10

Areas of Research: Natural Products & Bioinformatics



Dr. P. Ranjit

Assistant professor (C)

Teaching Experience : 8.3 years

Research Experience: 8 years

No. of Publications: 14

No. of Conferences/ Workshops/ Trainings attended: 10

Areas of Research: Bio-informatics, plant Transcriptomics



Dr. M. Anjaneyulu

Assistant Professor (C)

Teaching Experience : 05

Research Experience: 06

No. of Publications: 13

No. of Conferences/ Workshops/ Trainings attended: 20

Areas of Research: Cancer Therapeutics & Natural Products



Dr. Banothu Venkanna

Assistant Professor (C)

Teaching Experience : 01

Research Experience : 08

No. of Publications : 19

No. of Conferences/ Workshops/ Trainings attended : 10

Areas of Research : Herbal Pharmacology

FACULTY AWARDS & RECOGNITIONS

Dr. M.Lakshmi Narasu

- Recipient of Endeavour Awards from Ambassador from Australian Government.
- Recipient of Meritorious Teachers Award from Govt. of Andhra Pradesh.
- Recipient of Elected Fellow of A.P. Academy of Sciences from Govt. of Andhra Pradesh.

RESEARCH OUTCOMES & INNOVATIONS

- Development of sorghum genotypes suitable for lignocellulosic biofuel production through marker assisted gene pyramiding of brown midrib genes.
- Combinational studies of Phytochemicals and chemotherapeutic drugs on various cancer cell lines.
- Strategies for enhancement of secondary metabolites of therapeutic importance from medicinal plants viz., elicitation, hairy root cultures and pathway engineering.
- Commercialization of sweet sorghum as complimentary feed stock for ethanol production in the sugar mills of Maharashtra, Tamilnadu and Gujarath.
- Design of Effective dosage of Holocellulolytic enzymes for the hydrolysis of pretreated biomass to fermentable sugars and their fermentation to ethanol.
- Green synthesis of nanoparticles using medicinal plants and analysis of their biological activity.
- Sequential fractionation of Rice straw into hemicellulose, lignin, silica and cellulose, and an efficient saccharification of cellulose for fermentable sugar (Glucose) production.
- Molecular characterization of microorganisms present in the industrial polluted soils.
- An efficient conversion of cellulose and hemicelluloses fraction into furan-based platform chemical feed stack.
- Preparation of eco- benign particle wood adhesive using tailored lignin prepared from lignin rich sources.
- Extraction of lignin from fresh manure of herbivorous animals.
- Study of biosynthetic pathways of curcuminoids via transcriptome analysis and identification of key enzymes of the pathway.
- Production of pharmaceutically important saponins viz., Helicogenin and Stigmesterol from polyploidy root cultures of *Chlorophyllum borivilianum*.
- Phytochemical and biological activity investigations on various medicinal plants.
- Molecular modeling, Docking, ADME and QSAR Studies.
- Trascriptome analysis for mapping of plant secondary metabolite pathways.

CENTRE FOR CHEMICAL SCIENCE AND TECHNOLOGY (DST FIST Supported Centre)

ABOUT THE CENTRE

Centre for Chemical Sciences & Technology (CCST) is one of the prime centres in Institute of Science & Technology. It has been in the forefront of chemistry and chemical engineering training and research at IST, JNTUH. The main areas of research in chemistry include synthetic organic chemistry, newer reagents and methodologies, synthetic and mechanistic aspects of organic and inorganic transformations, selective catalytic transformations, structure and property novel polymers, synthesis of natural products, and Medicinal Chemistry. The major research areas in chemical engineering include chemical reaction engineering, microwave heating of food samples, environmental engineering, process control, fluidization engineering, modeling & simulation, thermodynamics & heat transfer.

PROGRAMME(S) OFFERED

M.Tech (Chemical Technology) : NBA Accredited (2016-2019)

M.Sc (Organic Chemistry)

M.Sc (Analytical Chemistry)

Ph.D (Chemistry)

Ph.D (Chemical Engineering)

MAJOR NATIONAL & INTERNATIONAL PROJECTS

Academic Year	No. of Projects	Funding (Rs. in Lakhs)	Agency
2018-19	02	27.80	CSIR, TEQIP-III
2017-18	02	43	WOS - A, R & D Industry
2016-17	03	26.00	TEQIP II, MODROBS-AICTE
2015-16	03	66.80	DST
2014-15	06	261.96	CSIR, DST-FIST, UGC-BSR Faculty Fellow, DST-SERB, DST
Before 2014 from Inception	08	192.82	CSIR, DRDO, UGC, AICTE, DST Dr. DSK, PDF-UGC, DST- Inspire Faculty



LAST FIVE ACADEMIC YEAR DATA

Academic Year	No. of Publications	No. of Patents Filed	No. of Conference/Training Programs organized
2018-19	35	-	01
2017-18	45	-	-
2016-17	46	01	02
2015-16	63	05	03
2014-15	66	-	04
Before 2014 from Inception	456	-	05

FELLOWSHIPS IN THE CENTRE IN LAST FIVE YEARS

Academic Year	No. of Fellows	Agencies (DST, UGC, AICTE, etc)	Fellowship Amount (Rs) in Lakhs
2017-18	01	DST-WOS-A	28.00
2016-17	01	DST-Inspire Faculty	83.00
2015-16	01	DST-INSPIRE	12.12
2014-15	01	RGNF, DST-SERB	53.90
Before 2014 from Inception	12	UGC/CSIR, Industry sponsored, UGC/CSIR, DST-INSPIRE, Aurobindo Pharma ltd.	115.04

LIST OF LABORATORIES

Advanced Chemical Engineering, Process Simulation, Organic Chemistry, Analytical Chemistry, Advanced Instrumentation, Advanced Synthesis, Physical Chemistry, Process simulation.

LIST OF MAJOR EQUIPMENT

Cyclone Separator, Adiabatic Batch Reactor, Fluidized Bed Dryer, Combined flow reactors for RTD studies, Bubble Cap Distillation apparatus, CSTR for RTD studies, Packed bed Reactor for Adsorption studies, Helical Coil Heat Exchanger, Ion Chromatograph, CHNS analyzer, Rheometer, Fixed Bed Catalytic Reactor, Mass Spectrometer, Immersion cooler, RO system, Fixed bed catalytic reactor, UV-Visible Spectrometer, Flame Photometer, Flash Chromatograph, Bench Top NMR, Micro wave synthesizer, Rotary Evaporator, IR Spectrophotometer, Gas Chromatograph, HPLC, Advance Flow Reactor, Julabo Chillers, Water purifier, Eyla Low Temperature reactor, Parallel Sythesizer, Digital Polarimeter.



FACULTY DETAILS :



Dr. A Jaya Shree

Professor & BoS Chairperson of Chemistry, Head

Teaching Experience : 27 Years
Research Experience : 32 Years
No. of Publications : 180
No. of Books : 03
No. of Patents Applied : 04
No. of Ph.Ds Guided : 20
No. of Ongoing R&D Projects : 04
No. of Completed R&D Projects : 04
No. of Conferences/ Workshops/ Trainings attended : 40
Areas of Research: Medicinal Chemistry & Drug Discovery



Dr. K. Mukkanti

Emeritus Professor of Chemistry

Teaching Experience : 32 Years
Research Experience : 35 Years
No. of Publications : 499
No. of Books : 05
No. of Ph.Ds Guided : 105
No. of Ongoing R&D Projects : 01
No. of Completed R&D Projects : 05
No. of Conferences/ Workshops/ Trainings attended : 40
Areas of Research: Catalysis & Environmental Science Technology



Dr. P. S. Sai Prasad

Emeritus Professor of Chemical Engineering

Teaching Experience : 07 Year
Research Experience : 40 Years
No. of Publications : 195
No. of Books/ Book Chapters : 05
No. of Patents : 16
No. of Ph.Ds Guided : 20
No. of Ongoing R&D Projects : 01
No. of Completed R&D Projects : 17
No. of Conferences/ Workshops/ Trainings attended : 70
Areas of Research: Catalysis & Catalytic Engineering



Dr. B. Srinivasulu

Academic Advisor (C)

Teaching Experience : 48 Years
Research Experience : 48 Years
No. of Publications : 60
No. of Ph. D students awarded : 10
No. of Conferences/ Workshops/ Trainings attended : 20
Areas of Research: Organic Chemistry, Drug Discovery



Mr. K. Naveen

Assistant Professor (C)

Teaching Experience : 01 Year

Research Experience : 08 Years

No. of Publications : 04

No. of Conferences/ Workshops/ Trainings attended: 13

Areas of Research: Organic Synthesis, Medicinal Chemistry



Mr. Mathews Bommella

Assistant Professor (C)

Teaching Experience : 08 Years

Research Experience : 09 Years

No. of Publications : 05

No. of Conferences/ Workshops/ Trainings attended : 15

Areas of Research: Analytical Chemistry, Instrumentation



Mr. A. Tejeswara Rao

Assistant Professor (C)

Teaching Experience : 07 Years

Research Experience : 08 Years

No. of Publications : 18

No. of patents applied : 01

No. of Conferences/ Workshops/ Trainings attended: 18

Areas of Research: Organic Synthesis, Molecular Modeling



Mrs. K. Bhagya Sri

Assistant Professor (C)

Teaching Experience : 05 Years

Research Experience : 06 Years

No. of Publications : 06

No. of Conferences/ Workshops/ Trainings attended : 25

Areas of Research: Heat Transfer Fluid Dynamics



Mrs. K. Priyanka

Assistant Professor (C)

Teaching Experience : 05 Years

Research Experience : 06 Years

No. of Publications : 03

No. of Conferences/ Workshops/ Trainings attended: 23

Areas of Research: Membrane Separations

FACULTY DETAILS :



Mr. K. Shankaraiah

Assistant Professor (C)

Teaching Experience : 03 Year

Research Experience : 08 Years

No. of Publications : 06

No. of Conferences/ Workshops/ Trainings attended: 12

Areas of Research: Organic Synthesis, Medicinal Chemistry

FACULTY AWARDS & RECOGNITIONS:

Dr. A. Jaya Shree

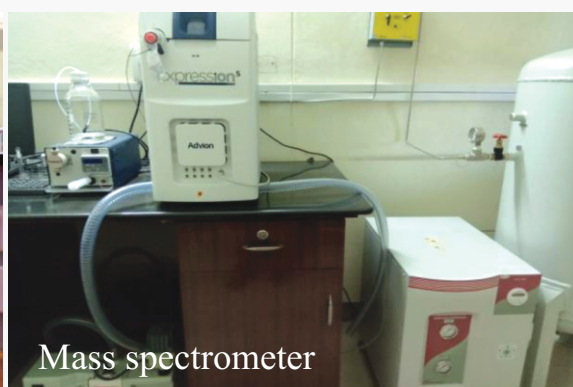
- Fellow of Royal Society of Chemistry
- Fellow of Telangana Academy of Sciences
- Recipient of State Award for Meritorious Teacher (Best Teacher Award)
- Fellow of Indian Chemical Society (ICS)
- Recipient of Bharat Shiksha Ratan Award

Dr. K. Mukkanti

- Awarded UGC-BSR Faculty Fellowship
- India's best researcher Award in top 05 authors in the field of Pharmacology, Toxicology and Pharmaceutics.
- Fellow of AP Academy of Sciences (FAPAS), Hyderabad.
- Fellow of TS Academy of Sciences (FTSAS), Hyderabad.
- Member, Academic Council, Jawaharlal Nehru Institute of Advanced Studies, Hyderabad.

Dr. P. S. Sai Prasad

- Fellow of AP Academy of Sciences in 2013.
- CSIR_IICT Gaurav Samman-1 in 2013
- CSIR_IICT Gaurav Samman-2 in 2013
- IGCW-Green Innovation Award 2013 by Green Chemistry Foundation for the team.
- Herdillia Award for Excellence in Basic Research in Chemical Engineering awarded by Indian Institute of Chemical Engineers, Kolkata in 2012
- Brain Pool Fellowship by Republic of South Korea in 2008
- JSPS Visiting Scientist Fellowship, Japan, 2002



RESEARCH OUTCOMES & INNOVATIONS

- The abietane diterpenoids isolated from *Plectranthus bishopianus* were characterised and screened for biological activities with the help of Gland Pharma Ltd, Hyderabad and Sri Padmavathi Mahila Vishwa Vidyalayam, Tirupathi and found to possess excellent Anti Cancer properties as well as antioxidant activity. The results are jointly filed for patent.
- Citrate conjugates for norfloxacin were synthesised and found to have excellent anti cancer properties
- UROLITHIN-A metabolite in pomegranate is a potent molecule to minimize the cardio cytotoxicity. This Molecule was synthesized successfully at our laboratory and sent to MD Anderson Cancer Institute, USA for biological screening which includes Anti-Cancer & Cardiovascular studies.
- Outcome of the screening data of Urolithin-A molecule may be patented/ Published jointly.
- Entered MOU with MNC Companies Viz. Aurobindo Labs, hetero Drugs, MSN labs, PS3 Labs and Dr. Reddy's Laboratories.
- Total synthesis of phomonol a natural product is accomplished.
- Research MOU with MD. Anderson Cancer Institute, University of Texas (Discussions over UROLITHIN-A Project).
- Filed four Patents
- Advanced Synthesis Laboratory of CCST is developed by the Industrial sponsorship from MSN Laboratories Pvt. Ltd, Hetero Drugs Pvt. Ltd, PS3 Laboratories LLP, Gland Pharma Ltd, Aurobindo Pharma Ltd.





CENTRE FOR ENVIRONMENT (DST FIST Supported Centre)

ABOUT THE CENTRE

Centre for Environment (CEN) was established at Jawaharlal Nehru Technological University in the year 1989 under the administrative control of the erstwhile Institute of Post Graduate Studies and Research (IPGSR) rechristened now as Institute of Science and Technology (IST). The Centre has developed and blossomed into a large, vibrant and one of the prestigious constituents of IST, JNTUH and is a DST-FIST repeat supported centre. In fact, it has become the academic and scientific icon in the emerging areas of Science and Technology. The main objective of the Centre is to offer teaching, training, research and development and consultancy in Environmental Science and Engineering with emphasis on Pollution monitoring, Environmental Management Technologies like EIA, Remote Sensing, GIS and GPS, Control Technologies like Industrial Waste Treatment, Biotechnology, and Hazardous Waste Treatment etc.

PROGRAMME(S) OFFERED

M.Tech. (Environmental Management) : NBA Accreditation (2012-2017) and Re-Accreditation (2018-2021).

M.Tech. (Environmental Geomatics) : NBA Accreditation (2012-2017) and Re-Accreditation (2018-2021).

Ph.D. (Environmental Science & Technology)

MAJOR NATIONAL & INTERNATIONAL PROJECTS

Academic Year	No. of Projects	Funding (Rs) in Lakhs	Agency
2018-19	07	34	TEQIP-III, UGC, AICTE
2017-18	02	25.07	DST, MSME
2016-17	05	9.4	TEQIP-II
2015-16	02	54.52	DST- NPCSNRDMS-DST
2014-15	04	81	BARC-BRNS, MoES
Before 2014 from Inception	48	1004.79	DRDO, UGC, BARC, DST, MNRE , DBT, PETL, UCIL, Environmental Solution Pvt Ltd., Forest Dept., MoEF, Ministry of Water Resource, AICTE, APPCB, DRDA, Ministry of Rural Department, DST-DAD, CSIR, DOD, SOM-phytopharma, MoES, etc.,

LAST FIVE ACADEMIC YEARS DATA

Academic Year	No. of Publications	No. of Patents Filed	No. of Patents Awarded	No. of Conference/Training Programs organized
2018-19	41	01	03	09
2017-18	82	01	-	03
2016-17	45	-	-	04
2015-16	41	-	-	02
2014-15	70	-	-	03
Before 2014 from Inception	380	04	-	20

FELLOWSHIPS IN THE CENTRE IN LAST FIVE YEARS

Academic Year	No.of Fellows	Agencies(DST,UGC,AICTE,etc)	Fellowship Amount (Rs) in Lakhs
2018-19	04	DBT-PDF (1)Kothari-PDF (3)	32.00
2017-18	02	UGC-PDF TEQIP-III	8.20
2016-17	02	UGC – NFSCDST- Women scientist	11.37
2015-16	02	DST-Inspire(DST-WOS A)	11.37
2014-15	04	CSIR-SRF UGC– OBC UGC-MANFDST-Inspire Fellow	11.52
Before 2014 from Inception	19	UGC-RADST-Women scientist UGC-RJNF-JRFMNRE – SRF (4)MNRE – JRF (2) (ICAR-JRF)(UGC-SRF)CSIR-SRF (7) (MoES SRF)	52.12

LIST OF LABORATORIES

Water Pollution. Waste Treatment, Instrumentation, Air pollution, Environmental microbiology, Molecular biology Bacterial genomics, Inoculation and culture room, Bioinformatics & Environmental Modelling, Environmental Geomatics and Photogrammetry, GIS / Remote Sensing Digital Data Analysis, CAD / Digitization, Optical Aeronomy.

LIST OF MAJOR EQUIPMENT

GC-MS, HPLC, GC, FT-IR, AAS, UV-Vis Spectrophotometers, TOC analyzer, CVD, flame synthesis, Culture rooms, laminar flow chambers, Phase contrast microscope, Dark field microscope, Lyophilizer, CO₂ incubator, anaerobic glove box, photo bioreactors, PCR, DGGE, Gel doc, microplate reader, -80⁰C deep freezer, refrigerated centrifuge, bioinformatics software- seqMan, Mega 4, electrophoresis units, Photo catalysis, UASB, RBC, ASP, Electro-Coagulation, MFC, Membrane filtration, Electrolyser, Raysway pond system, Photo bioreactor, Hydrogen generator, incinerator, pyrolysis, gasification unit, DATEM, Flame Photo Meter, Air high volume sampler, Stack monitoring instruments, ICP OES , Chemical Vapor Deposition unit, Hydrogen Adsorption unit, Flame reactor setup, Reverse osmosis, Electrocoagulation unit,

Anaerobic glow box,Ultra-pure water system, Millipore unit, Continuous stirrer reactor (CSTR),USAB Reactor,

Geo Spatial Lab : DGPS, ETS & Hand held GPS, Hyper spectral radiometer, A0 scanner and plotter, UAV-Drone

Software: ERDAS-LPS-10 Licenses, Arc GIS -9.1, PCI Geomatica, Intelli CAD, Leica Photogrammetry Suite, Datum.



FACULTY DETAILS:



Dr. V. Himabindu

Professor & Head

Teaching Experience : 21 Years

Research Experience : 25 Years

No. of Publications : 199

No. of Books : 1

No. of Patents : 1

No. of Ph.Ds Guided : 19

No. of Ongoing R&D Projects : 2

No. of Completed R&D Projects : 27

No. of Conferences/ Workshops/ Trainings attended : 37

Areas of Research: Environment & Energy



Dr. M. Anji Reddy

Professor & Director, R&D

Teaching Experience : 30 Years

Research Experience : 30 Years

No. of Publications : 178

No. of Books : 09

No. of Ph.Ds Guided: 34

No. of Ongoing R&D Projects: 04

No. of Completed R&D Projects: 25

No. of Conferences/ Workshops/ Trainings attended: 52

Areas of Research: Environmental Impact Assessment



Dr. Ch. Sasikala

Professor

Teaching Experience : 25 Years

Research Experience : 32 Years

No. of Publications : 216

No. of Books : 4

No. of Patents : 3 Granted & 1 Pre-Granted

No. of Ph.Ds Guided : 18

No. of Ongoing R&D Projects : 3

No. of Completed R&D Projects : 18

No. of Conferences/ Workshops/ Trainings attended : 47

Areas of Research: Microbiology & Bacterial diversity



Dr. T. Vijaya Lakshmi

Assistant Professor & BoS Chairperson

Teaching Experience : 18 Years

Research Experience : 16 Years

No. of Publications : 48

No. of Books : 4

No. of Ph.Ds Guided : 5

No. of Ongoing R&D Projects : 1

No. of Conferences/ Workshops/ Trainings attended : 15+

Areas of Research: Environmental Geomatics



Dr. A.Vamshi Krishna Reddy

Assistant Professor (C)

Teaching Experience : 09 Years

Research Experience : 14 Years

No. of Publications : 24

No. of Books : 01

No. of Patents : 01 (Filed)

No. of Conferences/ Workshops/ Trainings attended : 49

Areas of Research: Environmental Impact Assessment



Dr. A.V. Subba Rao

Academic Advisor (C)

Teaching Experience : 3 Years

Research Experience : 22 Years

No of Publications : 17

No. of Books : 02

No. of Conferences/ Workshops/ Trainings attended : 30

Areas of Research: Environmental Management &
Disaster Management

FACULTY AWARDS & RECOGNITIONS

Dr. V. Himabindu

- Editorial board member for Frontiers in Environmental Science
- Guest editor for Environmental science and pollution research
- Recognized as Govt. Analyst by Central Pollution Control Board

Dr. M. Anjireddy

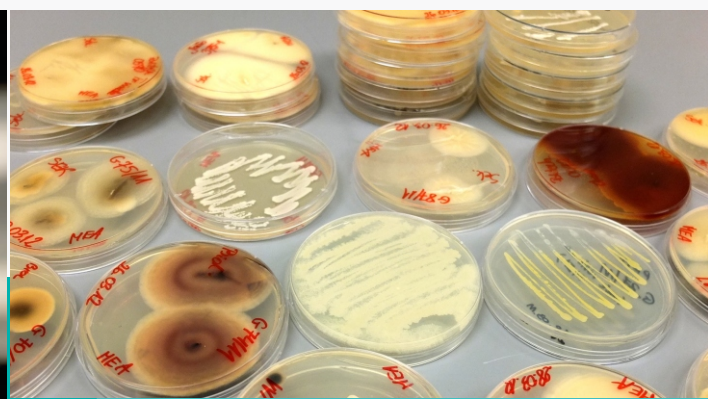
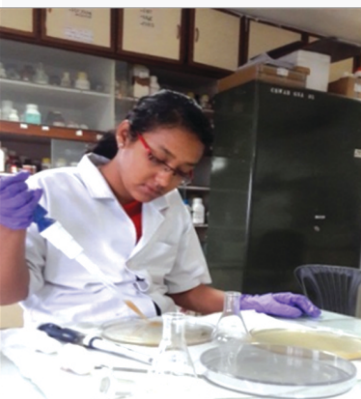
- Member in Department of Science & Technology - Natural Resources Data Management System in 2019
- Indra Gandhi Excellence Award in 2013 by International Business Council, New Delhi, India.
- Bharat Ratna Sir Mokshagundam Visveswarayya Award in 2013 by Govt of AP and Institute of Engineers.
- Best Teacher Award in 2012 by Govt. of Andhra Pradesh.
- AP Scientist Award in 2010 by APCOST, Govt. of A.P in the area of Science and Technology.
- Fellow of Andhra Pradesh Academy of Sciences, India.
- DST Young Scientist 1995.
- Former Chairman, A.P State level Expert Appraisal Committee (SEAC) of State Environmental Impact Assessment Authority (SEIAA) of Ministry of Environment & Forests, Govt. of India.
- Executive Council, JNT University, Hyderabad.
- Member DST Project Advisory Committee Government of India
- Technical Member, World Bank funded GIS project-IIIP,
- Member DST, NRDMS Expert Project Advisory Committee (PAC)
- Member, Technical expert committee, Women Scientist Scheme DST
- Member, National Expert committee on Restoration of Village Ponds and Management NRDMS DST Government of India.

Dr. Ch. Sasikala

- Recipient of “State Award for meritorious teachers” (Best Teacher Award) 2016, from Government of Telangana.
- Recipient of “AMI Prof BN Johri award for Microbial diversity- 2016” of Association of Microbiologists of India.
- Recipient of UGC Research award in 2014 and UGC Midcareer award in 2018.
- Best Publication Award 2013 –Society For Advancement of Human and Nature (SADHNA), Dr YS Parmar university of Horticulture and Forestry Nauni, Solan 173230 Himachal Pradesh, India.
- Recognized as Government analyst by Central Pollution Control Board, Govt. of India.
- Placed among top hundred researchers of India, and top 5 in microbiology 2011-2016 by Outlook group (Careers 360 magazine) from data obtained from Scopus.
- Visiting professor, IFM-GEOMAR, Kiel, Germany in 2008.
- Elected as member of “International Committee on systematic of prokaryotes: Subcommittee on the taxonomy of phototrophic bacteria”.
- Elected Active member of the “New York Academy of Science”.
- Elected fellow of TS Academi of Science.
- Member, Technical Evaluation Panel for Department of Biotechnology, Government of India's BIRAC for Biotechnology Ignition Grant (BIG).
- Member, “Expert committee on Access and benefit sharing” of National Biodiversity Authority, Government of India.
- Recipient, “Faculty Research Award 2018”, by careers 360.
- Elected fellow of Academy of Microbiological Sciences.
- Recipient of DBT overseas associate ship award in 2008.
- Member Editorial Board of Indian Journal of Microbiology (2008-2010).
- Recipient of UGC Research Scientist award in 1994.

Dr. A. Vamshi Krishna reddy

- “Best Water Conservator Award – 2018” in Asia's Largest Youth Meet on Safe Water for Future in 2018 by Lee Shreyus Foundation in Association.
- “International Youth Worker Award - 2017” by International Youth Exchange between India & Sri Lanka at Hyderabad by Lee Shreyus Foundation in 2017.
- Asia Pacific Who's Who (Vol. XVI) : Personal Biodata included in Asia Pacific Who's Who (Vol. XVI) in 2017 by Rifacimento International
- “Prakruthi Rakshak Award” from Green Warriors in the field of Environment and Eco - Promoter in 2015.
- Best Research Paper Presentation Award in International Conference on Environment and Energy in 2014.



Dr. A.V. Subba Rao

- Gold medal from ISRO in the year 2016
- Institutional consultant for the food and agriculture organizational FAO of the united nations (ROME) 2004-2010
- National consultant for GIS&RS for FAO-ROME 2002

STUDENTS AWARDS AND ACHIEVEMENTS

- Mr. S. Shiva Kumar received prestigious IRDP – 2019, Best Young Researcher National / International Award -2019 Awarded by IRDP Group of Journals.
- Dr. K. Srilatha won the achievement award title “Outstanding Young Scientist in Energy and Environment” Awarded by “Rula Research Award (2018-19)” Powered By “World Research Council” & “United Medical Council”.
- Mr.P.Kiran kumar won the achievement award title “Best Young Researcher in Environment and Energy” Awarded by “Rula Research Award (2018-19)” Powered By “World Research Council” & “United Medical Council”.
- Mr. S. Shivakumar has International “Best Young Researcher Award in Material Chemistry” Awarded by RULA Awards, World Research Council and United Medical Council (2018-2019).
- Mr. Abdul Moid received The Royal Netherlands Fellowship to participate in the 2week Training Program on RS& GIS for Water Resources, NFP, The Royal Netherlands Fellowship (2017).
- Mr. M. Umashankar Kumar received Indira Gandhi National Award for Best NSS Student Volunteer, MHRD, GoI received from Hon.ble President of India (2016)

RESEARCH OUTCOMES & INNOVATIONS

- Recovery of acid from electro plating industrial waste water using Diffusion Dialysis Technique
- Recovery of Nutrients from Microalgae Using Hydrothermal.
- Removal of Ammonia from Industrial Waste Water by Using Electro Chemical Methods.
- 50 lit electro-coagulation unit fabricated for wastewater treatment process.
- Hydrogen production from methane using TCD reactor.
- Manufacturing of bricks from industrial solid waste and contaminated lake sediment.
- Development of water electrolyser for Hydrogen production.
- A Village Information System is developed on temporal and spatial domains that will host critical information for an effective operation of a Decision Support Information System (DSIS) that can lead to an optimum and comparable development of all regions including utility of local resources.
- Builds up self-confidence and national belongingness and career inspiration among the young student community.
- Contributes to National capacity building.
- Village information to empower the decision makers and user community.
- Thematic maps on various data elements like demography, natural resources, infrastructure, communication network etc



CENTRE FOR NANO SCIENCE AND TECHNOLOGY (DST Nanomission Supported Centre)

ABOUT THE CENTRE:

Centre for Nano Science and Technology (CNST) was established in 2007 at Institute of Science and Technology, Jawaharlal Nehru Technology University Hyderabad with main focus on teaching and research in the field of Nano Technology under the support of DST-Nanomission. Centre has well equipped classrooms with audiovisual facilities, research and computer facilities. The Centre has modern infrastructure for carrying out research in the advanced areas of Nano science.

PROGRAMME(S) OFFERED

M.Tech (Nano Technology) : NBA Accredited (2016-2019)

Ph.D (Nano Science and Technology)

MAJOR NATIONAL & INTERNATIONAL PROJECTS

Academic Year	No.of Projects	Funding (Rs) in Lakhs	Agency
2018-19	03	18.2	TEQIP-III, Agastya Agro Limited
2016-17	01	25.13	UGC-Raman Post Doctoral Fellowship
2015-16	02	7.5	TEQIP-II R&D,TEQIP-II IIIC
2014-15	01	50	DST Nanomission
Before 2014 from Inception	03	146	UGC MRP, DST SERB, DST Nanomission

LAST FIVE ACADEMIC YEARS DATA:

Academic Year	No. of Publications	No. of Patents Filed	No. of Conference/ Training Programs organized
2018-19	18	-	04
2017-18	22	02	01
2016-17	25	02	02
2015-16	40	02	01
2014-15	35	-	02
Before 2014 from Inception	48	-	04



FELLOWSHIPS IN THE CENTRE IN LAST FIVE YEARS

Academic Year	No.of Fellows	Agencies(DST,UGC,AICTE,etc)	Fellowship Amount (Rs) in Lakhs
2018-19	01	TEQIP-III	1.08
2016-17	01	TEQIP-II	1.44
2015-16	02	DST SERB,RGNF	28.44
2014-15	02	UGC-MRP, RGNF	17.80
Before 2014 from Inception	01	JNTUH	4.32

LIST OF LABORATORIES

Synthesis, Characterization-I, Characterization-II, Nano Electronics, Nano Biotechnology, Simulation, Advanced Simulation, Industry Incubation.

LIST OF MAJOR EQUIPMENT:

Atomic Force Microscope, TGA/DSC/DTA, UV Spectroscopy, Spin coating, Spray Pyrolysis, Ball Mill, Mini CVD, Thin Film Unit, XRD, Particle Size Analyzer, Controlled Humidity chamber (sensor), Cyclic Voltammetry, Solar simulator, Four point probe, Gas sensor set up, Nano fluid Ultrasonic Interferometer, FTIR, Tubular furnace, Contact angle.



FACULTY DETAILS:



Dr. K. Venkateswara Rao

Professor & Head

Teaching Experience : 22 Years

Research Experience : 16 Years

No. of Publications : 220

No. of Books : 17

No. of Patents : 03

No. of Ph.Ds Guided : 13

No. of Ongoing R&D Projects : 02

No. of Completed R&D Projects : 07

No. of Conferences/ Workshops/ Trainings attended : 80

Areas of Research: Gas & Glucose Sensing Applications



Dr. CH. Shilpa Chakra

Assistant Professor & BoS Chairperson

Teaching Experience : 8 Years

Research Experience : 8 Years

No. of Publications : 72

No. of Books : 02

No. of Patents : 02

No. of Ongoing R&D Projects : 01

No. of Completed R&D Projects : 02

No. of Conferences/ Workshops/ Trainings attended: 15

Areas of Research: Nanobiotechnology & Energy Storage



Mr. D. Rakesh

Assistant Professor (C)

Teaching Experience : 8 Years

Research Experience : 1 Year

No. of Publications : 1

No. of Conferences/ Workshops/ Trainings attended : 15

Areas of Research: Nanomaterial Synthesis & Characterization

FACULTY AWARDS & RECOGNITIONS

Dr. K. Venkateswara Rao

- Awarded as Best teacher from Telangana state government in 2017.
- Awarded as Raman Fellowship for Post Doctoral Research in USA from UGC in 2016.
- Awarded as Highly Cited Research from Elsevier-Material Science in semiconductor processing in 2016.
- Awarded as Laboratory Award for Best Technical Paper from Defense Metallurgical Research Laboratory – Hyderabad in 2016.
- Awarded as NPTEL certificate of appreciation Instrumentation role as SPOC for swayam NPTEL local chapter.
- Awarded as ITAP from Tutors in 2017.

Dr. CH. Shilpa Chakra

- Awarded as Young Faculty from Venus International Faculty Awards in 2016.
- Elected as Associate Fellow in Engineering Sciences from Andhra Pradesh Academy of Sciences in 2018.
- Elected as Associate Fellow in Engineering Sciences from Telangana Academy of Engineering Sciences in 2018, received the award in 2019.

RESEARCH OUTCOMES & INNOVATIONS

- Preparation of Nanoparticles using Kitchen waste and other Biomass.
- Efficiency of the solar cell is increased using organic dyes, in collaboration with NED batteries Pvt Ltd.
- Developed cost effective gas sensor using bio-nanomaterials and patents filed.
- Light weight Bullet Proof Material in collaboration with Nanospan India Pvt.Ltd.
- Water purification using Nanomaterials like Graphene Oxide, Metal oxide etc.
- Enhancing Thermal Comfort &Hydrophobic coatings.
- Fabrication of Super-Capacitor in collaboration with Nanospan India Pvt.Ltd under Ministry of Micro, Small and Medium Enterprises (MSME).
- Center for Nano Science and Technology is supported by DST Nano mission (2010-16).with a funding of approximately 2Crores,Center for Nano Science and Technology is one and only center in Telangana state universities which offers multidisciplinary M.Tech Nano technology (NBA accredited) and Ph.D programs.
- Most of our Alumni students are working in various positions (PDF&Ph.D) in countries like Japan, south korea, USA, UK, Singapore, Malaysia, Australia, etc.
- Centre is promoting Industry Institute Collaboration (Two MoU'S) and strategizes stimulating R&D environment for the students and allowing hands on experience for excellency in technical education and research.
- Centre has so far established higher research groundwork by publishing around 280 international journals with high impact factors and four patents have been filed. Incubation centers have been also been created with different industries like Nanospan India Pvt.Ltd , Agastya Agro Limited & PFS Research Pvt Ltd.
- Dr S. Gautam (Alumini) pursuing Post Doctoral fellowship in University of Manchester, (with Nobel laureate Group). Dr. T. Dayakar(Alumini) selected for B-21 fellowship prestigious in South Korea.





UV VIS



AFM



Raman



XRD



PSA



TG-DTA



Ball mill



CENTRE FOR PHARMACEUTICAL SCIENCES (DST FIST Supported Centre)

ABOUT THE CENTRE

Centre for Pharmaceutical Sciences (CPS) was established in 2007 with a mission to promulgate and educate the role of future pharmacist in various fields – Researcher, entrepreneurs, teaching bodies, viz. The committed faculty members provide a systematic and quality training to the students to become Pharmaceutical professionals to cater the needs of the Pharmaceutical industries, academic institutions and the Society in general.

PROGRAMME(S) OFFERED

M. Pharmacy (Pharmaceutical Analysis) - PCI Approved
M. Pharmacy (Pharmaceutics) - PCI Approved
M. Pharmacy (Pharmacognosy) - PCI Approved
Ph.D (Pharmacy)

MAJOR NATIONAL & INTERNATIONAL PROJECTS

Academic Year	No. of Projects	Funding (Rs) in Lakhs	Agency
2018-19	02	12.6	PCI, CSIR-JRF
2017-18	04	25.9	DST-SERB, DST-WOS A
2016-17	03	8.2	TSCHE, DST-SERB, UGC-RGNF
2015-16	04	38.9	JNTU-RIPE, UGC-MANF, UGC - PDFW, DST-WOS A
2014-15	03	139.5	DST-FIST, DST-SERB, INSPIRE
Before 2014 from Inception	04	76.92	2013-2015 AICTE-MODROBS, UGC-MRP, AICTE-RPS, UGC-MRP, AICTE- RPS



LAST FIVE ACADEMIC YEARS DATA

Academic Year	No. of Publications	No. of Patents Filed	No. of Patents Awarded	No. of Conference/ Training Programs organized
2018-19	17	01	-	03
2017-18	54	01	01	03
2016-17	34	03	03	05
2015-16	55	-		01
2014-15	48	01	01	01
Before 2014 from Inception	107			07

FELLOWSHIPS IN THE CENTRE IN LAST FIVE YEARS

Academic Year	No. of Fellows	Agencies(DST, UGC, AICTE, etc)	Fellowship Amount (Rs) in Lakhs
2018-19	01	JRF-CSIR	4.8
2017-18	01	DST-WOSA	22.9
2016-17	01	UGC-RGNF	6.7
2015-16	03	UGC-MANF, PDFW, DST-WOSA	37.9
2014-15	02	DST-SERB, INSPIRE	43.6

LIST OF LABORATORIES

Pharmaceutical Analysis-I , Instrumentation, Pharmacognosy, Pharmaceutics, Machine Room, Pharmaceutical Chemistry.

LIST OF MAJOR EQUIPMENTS

FTIR, HPLC, HPTLC, Spectro Fluoro Meter, UV – Vis Spectrophotometer, Gas Chromatography, Karl Fischer Moisture Titrator, Flame Photometer, Zeta Sizer, Dissolution Test Apparatus, Shaking Incubator, Automated Biochemistry Analyzer, Rota Evaporator, Fluorescent Microscope, Spray Drier, Tablet Compression Machine, Elisa Reader, Co₂ Incubator, Fluorescence Microscope.



FACULTY DETAILS:



Dr. S. Shobha Rani

Associate Professor & Head

Teaching Experience : 15 Years

Research Experience : 14 Years

No. of Publications : 77

No. of Books : 01

No. Ph.Ds Guided : 09

No. of Completed R & D Projects : 02

No. of Conferences/ Workshops/Trainings attended : 44

Areas of Research: Pharmaceutical Chemistry, & Drug Design



Dr. G. Krishna Mohan

Professor

Teaching Experience : 29 Years

Research Experience : 30 Years

No. of Publications : 105

No. of Books : 02

No. of Patents : 04

No. Ph.Ds Guided : 22

No. of Ongoing R & D Projects : 01

No. of Completed R & D Projects : 03

No. of Conferences/ Workshops/Trainings attended : 25

Areas of Research: Ethno Botany & Ethno Pharmacology



Dr. M. Ajitha

Professor, Officer Incharge of Examinations

Teaching Experience : 21 Years

Research Experience : 22 Years

No. of Publications : 75

No. of Books : 01

No. of Patents : 03

No. Ph.Ds Guided : 10

No. of Completed R & D Projects : 02

No. of Conferences/ Workshops/Trainings attended : 17

Areas of Research: Pharmaceutical Chemistry & Drug Design



Dr. M. Sunitha Reddy

Associate Professor & BoS Chairperson

Teaching Experience : 27 Years

Research Experience : 27 Years

No. of Publications : 73

No. Ph.Ds Guided : 01

No. of Completed R & D Projects : 01

No. of Conferences/ Workshops/Trainings attended : 66

Areas of Research: Nanoemulsion & Novel Drug Delivery Systems

FACULTY DETAILS:



Dr. M. Sandhya Rani

Assistant Professor (C)

Teaching Experience : 11 Years

Research Experience : 12 Years

No. of Publications : 25

No. of Conferences/ Workshops/Trainings attended : 18

Areas of Research: Medicinal Plants, & Anti-Diabetic Application



Mr. S. Muhammad Fazal ul Haq

Assistant Professor (C)

Teaching Experience : 07 Years

Research Experience : 08 Years

No. of Publications : 06

No. of Conferences/ Workshops/Trainings attended : 15

Areas of Research: Nanoemulsion & Bioexcipients



Mrs. A. Srivani

Assistant Professor (C)

Teaching Experience : 04 Years

Research Experience : 05 Years

No. of Publications : 03

No. of Conferences/Workshops/Trainings attended : 15

Areas of Research: Isolation & Characterization of Biomolecules



Mrs. K.S.L Harika

Assistant Professor (C)

Teaching Experience 08 Years

Research Experience : 09 Years

No. of Publications : 10

No. of Conferences/ Workshops/Trainings attended : 15



Mrs. K. Anie Vijetha

Assistant Professor (C)

Teaching Experience : 08 Years

Research Experience : 09 Years

No. of Publications : 11

No. of Conferences/ Workshops/Trainings attended : 18

Areas of Research: Nanoemulsion & Novel Drug Delivery Systems

RESEARCH INNOVATIONS AND OUTCOMES OF THE CENTE

- Development of gold/ iron nanoparticles in treating Alzheimer's disease, Diabetes
- Phytochemical and Pharmacological investigation of various plants
- Studies on treatment of Osteoporosis
- Enhancement of Solubility and bioavailability of Drugs by various techniques like Complexation, SEEDS, Cubosomes etc.,
- Extraction of bioexcipients and bioactive constituents from various plants and their usage in formulation development
- Use of natural excipients in the development of Nanoparticles.
- Analytical method development and validation of drugs by RP-HPLC, GC, HPTLC.
- Bioanalytical method development and validation of biological samples by LC-MS and other Hyphenated techniques.
- Drug discovery and development by Green Synthesis, Docking and QSAR studies.



CENTRE FOR SPATIAL INFORMATION TECHNOLOGY

ABOUT THE CENTRE:

Centre for Spatial Information Technology (CSIT) was established in the year 1992 and has been in the forefront of Remote sensing and GIS education. The M.Tech. Program in Remote Sensing was started in the year 1992 has become very popular in the industry with all our students placed. The programme was renamed as M.Tech. in Spatial Information Technology from the year 2000. The convergence of geographic information systems (GIS) and the world-wide web has changed mapmaking forever. Suddenly GIS, until recently a specialized tool of scientists and city planners, is dispensing all manner of geographic information to an enthusiastic web based clients. In this context appropriate expertise is built in this university by the center and is in the forefront in human resource development, research and consultancy. The center also conducts workshops and seminars for students, teachers and scientists in the relevant diverse areas funded by DST , TEQIP-II and TEQIP-III.

PROGRAMME(S) OFFERED

M.Tech (Spatial Information Technology)

Ph.D (Spatial Information Technology)

MAJOR NATIONAL & INTERNATIONAL PROJECTS

Academic Year	No.of Projects	Funding (Rs) in Lakhs	Agency
2018-19	02	2.0	TEQIP-III
2015-16	03	2.0	TEQIP-II
Before 2014 from Inception	03	45.0	UGC-SAP,MHRD, AICTE

LAST FIVE ACADEMIC YEARS DATA

Academic Year	No. of Publications	No. of Conference/Training Programs organised
2018-19	03	03
2017-18	17	01
2016-17	09	04
2015-16	8	05
2014-15	8	01
Before 2014 from Inception	29	10

FELLOWSHIPS IN THE CENTRE IN LAST FIVE YEARS:

Academic Year	No.of Fellows	Agencies(DST,UGC,AICTE,etc)	Fellowship Amount (Rs) in Lakhs
2018-19	01	TEQIP-III	1.62
2015-16	01	TEQIP-II	2.70

LIST OF LABORATORIES

Arc Geographic Information System Lab, Digital Image Processing Lab, User Interface Development Lab , Global Navigation Satellite Systems Lab.

LIST OF MAJOR EQUIPMENTS: Hand Held GPS, DGPS, A0 size scanner , Mirror Photogrammetry, Computers

FACULTY DETAILS:



Dr. C. Sarala

Professor & Head I/c

Teaching Experience: 21 Years

Research Experience: 18 Years

No. of Publications: 45

No. of Books: 04

No. of Ongoing R&D Projects: 01

No. of Completed R&D Projects: 01

No. of Conferences/ Workshops/ Trainings attended: 06

Areas of Research: Water Quality & Environmental Impact Assessment



Dr. M. Viswanadham

Professor & BoS Chairperson

Teaching Experience : 33 Years

Research Experience : 31 Years

No. of Publications :44

No. of Books : 01

No. of Ph.Ds Guided : 06

Areas of Research: Environmental Engineering & Surveying



Sri J. Venkatesh

Associate Professor

Teaching Experience : 15 Years

Research Experience : 15 Years

No of Publications : 12

No. of Ongoing R&D Projects: proposal submitted to ISRO

No. of Conferences/ Workshops/ Trainings attended : 06

Areas of Research: Remote Sensing & Water Resource Engineering



Sri Ballu Harish

Assistant Professor (C)

Teaching Experience : 03 Years

Research Experience : 01 Years

No. of Publications : 16

No. of Conferences/ Workshops/ Trainings attended : 08

Areas of Research: Programming Language & Image Processing

FACULTY AWARDS & RECOGNITIONS

Dr. M. Viswanadham

- Received State Best Teacher Award - 2014 from Govt. of Telangana State.
- Received Global Teachers Role Model Award - 2015 from MVLA Mumbai, India
- Received Award from ISAG (Indian Society of Applied Geochemist) for contribution in Environmental Engineering in March 2015.
- Appointed as Member of State Environment Appraisal Committee (SEAC), AP Pollution Control Board in 2015.
- Member of Andhra Pradesh State Development and Planning Society (APSDPS), Govt. of AP.
- Global Economic Progress & Research Association “Bharat Ratna Dr.AbdulKalam Gold Medal Award” in the year 2018.



CENTRE FOR WATER RESOURCES

ABOUT THE CENTRE:

Centre for Water Resources (CWR) which forms a part of the Institute of Science and Technology, JNT University, Hyderabad was established in the year 1984 with the funding from the then Ministry of Education and Culture, Government of India to impart training in the management of water resources at an advanced level and to undertake research and development activities in the field of water, land and environmental management and other related areas. Since then the Centre has acquired a reputation among user agencies like state and Central Government Departments and other public sector and private organizations as an apex body for imparting Education, training and undertaking field oriented research projects in water, land and environmental management. Over the years the activities of the Centre has been greatly diversified and has concentrated on water, land and environment for sustainable development with networking from National and International Organizations Central public Health and Environmental Engineering Organization has recognized this Centre as one of the renowned institute offering P.G. programme in water and environment. The Centre is funded by the World Bank under Technical Education Quality improvements programme (TEQIP) and established well-equipped laboratories. Research and Consultancy projects were taken up in many areas of water resources and environment at National and International levels. Many National and International conferences were also conducted by the Centre notable among them is ICHWAM (International Conference on Hydrology and Watershed Management) series which is being conducted for every four years.

PROGRAMME(S) OFFERED

M.Tech. (Water & Environmental Technology) : NBA Accreditation (2012-2017) and Re-Accreditation (2018-2021).

Ph.D (Water Resources)

MAJOR NATIONAL & INTERNATIONAL PROJECTS

Academic Year	No.of Projects	Funding (Rs) in Lakhs	Agency
2018-19	01	39.9	Earthwatch
2017-18	03	26.90	TSCOST, Ordinance Factory, Eco-wash
2016-17	01	10.32	TEQIP, DST
2014-15	01	10.91	AICTE
Before 2014 from Inception	22	356.53	MHRD,Development, AICTE, Govt. of Andhra Pradesh, IWMI, DST, UGC, Ministry of Water Resources & TEQIP, CGWB, Earth Watch International NGO, Institute of Engineers India (Kolkatta).



LAST FIVE ACADEMIC YEARS DATA:

Academic Year	No. of Publications	No. of Patents Filed	No. of Conference/Training Programs organized
2018-19	09	-	05
2017-18	48	-	03
2016-17	35	-	03
2015-16	27	02	05
2014-15	66	-	02
Before 2014 and from Inception	216	-	25

FELLOWSHIPS IN THE CENTRE DURING LAST FIVE YEARS

Academic Year	No. of Fellows	Agencies(DST,UGC,AICTE,etc)	Fellowship Amount (Rs)
2018-19	02	TEQIP-III	3.6
2017-18	01	DST	4.0
2016-17	02	DST	8.9
2015-16	07	DST, UGC & TEQIP-II	25.13
2014-15	06	DST, UGC & TEQIP-II	12.42
Before 2014 from Inception	04	DST, UGC	12.18

LIST OF LABORATORIES

Geophysical Surveying, Water Resources Modelling, Water Quality.

LIST OF MAJOR EQUIPMENTS

Flame Photometer, Very Low Frequency Equipment, Water Quality Analyzer Kit, Visible Spectrophotometer, Total Organic Carbon Apparatus, Calorimeter For Physical And Chemical Parameters Analysis, Autoclave, Atomic Absorption Spectrophotometer, Abem Terrameter Sas 1000 System, Channel Seismic Refraction Timer, Pumping Test Equipment, Water Level Indicators, Well Logger Sas 300, Ground Penetrating Radar (Gpr) With 400 Mhz & 100 Mhz, Ssr Mp Ats Resistivity Meter, Hyper Spectral Radiometer, Hydraulics Ram Test Rig, Tilting Flume Apparatus, Free & Forced Vortex Apparatus, Laminar Flow Table, Pipe Surge & Water Hammer Apparatus, Darcy's Law Apparatus, Fluoride Meter.



FACULTY DETAILS:



Dr. C. Sarala

Professor & Head

Teaching Experience : 21 Years

Research Experience : 18 Years

No. of Publications : 45

No. of Books : 04

No. of Ongoing R&D Projects : 01

No. of Completed R&D Projects : 01

No. of Conferences/ Workshops/ Trainings attended : 06

Areas of Research: Water Quality & Environmental Impact Assessment



Dr. B. Venkateswara Rao

Professor & Director, IST

Teaching Experience : 34 Years

Research Experience : 22 years

No. of Publications : 155

No. of Books : 05

No. of Ph.Ds Guided : 11

No. of Ongoing R&D Projects : 01

No. of Completed R&D Projects : 16

No. of Conferences/ Workshops/ Trainings attended : 36

Areas of Research: Ground Water & Water Soil Conservation



Dr. K. Ramamohan Reddy

Professor

Teaching Experience : 32 Years

Research Experience : 18 Years

No. of Publications : 59

No. of Books : 02

No. of Ph.Ds Guided : 02

No. of Ongoing R&D Projects : 01

No. of Completed R&D Projects : 01

No. of Conferences/ Workshops/ Trainings attended : 45

Areas of Research: Surface water & Waste water treatment



Dr. M.V.S.S. Giridhar

Professor & BoS Chairperson

Teaching Experience : 16 Years

Research Experience : 11 Years

No. of Publications : 138

No. of Books : 11

No. of Patents : 02

No. of Ph.Ds Guided : 01

No. of Ongoing R&D Projects : 06

No. of Completed R&D Projects : 07

No. of Conferences/ Workshops/ Trainings attended : 55

Areas of Research: Remote Sensing GIS Application of Ground Water & Rain water Harvesting

FACULTY AWARDS & RECOGNITIONS

Prof. B.Venkateswara Rao

- INSA Teachers Award - 2016 by Indian National Science Academy
- AEG – Data Code Sriram Srinivasan Award - 2016
- Elected as President for Association of Global Groundwater Scientists (AGGS) for the term 2016-19.
- State Award to Meritorious Teachers Award - 2015 by Govt. of Telangana.
- Elected as a Fellow of Andhra Pradesh Akademi of Sciences (APAS) in 2014.
- Elected as a Fellow of Indian Geophysical Union (IGU) in 2013
- National Geoscience Award – 2011 in the field of Groundwater Exploration by Government of India.
- Andhra Pradesh Scientist Award - 2006 in the field of New and Emerging Sciences by Government of Andhra Pradesh.
- Honorary Research Fellow during 2005 by Birmingham University (UK)

RESEARCH OUTCOMES & INNOVATIONS

- Developed a methodology for calculating the ground water potential in a given area.
- Estimated various components of hydrological cycle such as Runoff, recharge, return flows, soil erosion, and reservoir sedimentation in the Deccan Plateau of different terrains.
- Designed & Developed recharge structures to Hard-Rock terrains.
- Central Public Health and Environmental Engineering Organization has recognized this Centre as one of the renowned institute offering P.G. programme in water and environment.



CENTRE FOR EARTH AND ATMOSPHERIC SCIENCE (UGC Supported Centre)

ABOUT THE CENTRE:

Centre for Earth and Atmospheric Science (CEA) is the only Centre / Department in the State of Telangana which offers Satellite Meteorology and Weather Informatics such an important PG Course started in 2006. Centre was aided by Govt of Andhra Pradesh, basically to monitor and evaluate precipitation enhancement programme through cloud seeding. This was necessitated as the rain shadow area of Telangana, Andhra Pradesh and Rayalaseema has been experiencing droughts time and again leading to socioeconomic problems. Since then CEA has been organizing and monitoring the said programme and has archived valuable data in cloud physics.

PROGRAMME(S) OFFERED

Ph.D (Earth and Atmospheric Science)

MAJOR NATIONAL & INTERNATIONAL PROJECTS

Academic Year	No.of Projects	Funding (Rs) in Lakhs	Agency
2013-17	01	50.0	UGC
Before 2014 from Inception	07	258.07	RSAD-Govt of AP, NCRI, AP Genco

LAST FIVE ACADEMIC YEAR DATA

Academic Year	No. of Publications	No. of Conference/Training Programs organized
2018-19	03	-
2017-18	06	-
2016-17	07	-
2015-16	07	-
2014-15	05	-
Before 2014 and from Inception	22	07

LIST OF LABORATORIES

Meteorological Observatory and Climatic Tower, Weather, Computer and GIS, C band and Micro Rain Radar.

LIST OF SOFTWARES

Proprietary Geospatial Software's: ERDAS 9.1, Arc GIS 9.3

Open Source Geospatial Software's: IL WIS 3.6, Open JUMP 1.3, Map Window GIS

Ocean Data Processing : Ferret, Ocean data view (ODV), SeaWiFS Data Analysis System (Sea DAS), Programming in C & C++

FACULTY DETAILS:



Dr. C. Sarala

Professor & Head

Teaching Experience : 21 Years

Research Experience : 18 Years

No. of Publications : 45

No. of Books : 04

No. of Ongoing R&D Projects : 01

No. of Completed R&D Projects : 01

No. of Conferences/ Workshops/ Trainings attended : 06

Areas of Research: Water Quality & Environmental Impact Assessment



Dr. B. Venkateswara Rao

Professor & Director, IST

Teaching Experience : 34 Years

Research Experience : 22 years

No. of Publications : 155

No. of Books : 05

No. of Ph.Ds Guided : 11

No. of Ongoing R&D Projects : 01

No. of Completed R&D Projects : 16

No. of Conferences/ Workshops/ Trainings attended : 36

Areas of Research: Ground Water & Water Soil Conservation

RESEARCH OUTCOMES & INNOVATIONS

- Developed a methodology for cloud seeding and the estimation of resulting rainfall.
- Record weather observations, analysis of weather data on a regional and global scale and techniques for prediction of weather systems - tropical cyclones like recent Hudud, forecasting of urban floods and floods over major river basins, droughts, earthquakes, heat waves & cold waves etc making use of latest technology namely Remote Sensing, Geographical Information System (GIS), weather Radars, weather Satellites briefly speaks of the uniqueness of our Course. From day to day weather changes to Climate change ranging from decades to hundreds of years; impact of global warming, El Nino and La Nina effects on the global weather and more particularly on Indian Summer Monsoon are some of the highlights of this course.

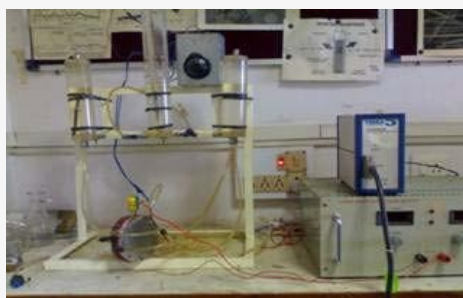


CENTRE FOR ALTERNATIVE ENERGY OPTIONS (CAEO)-EXCLUSICE RESEARCH CENTRE

ABOUT THE CENTRE

Centre for alternative energy options (CAEO) is aimed to develop technologies related to hydrogen production, using different processes such as PEM water electrolysis, Thermo Catalytic Decomposition (TCD), Ethanol reforming and biohydrogen. It is planned to develop renewable energy systems integrated with Photovoltaics, PEM water electrolyser, Fuel cell, battery and hydrogen storage tank to reduce dependency on conventional power. It is also aimed to develop technologies for biofuels such as biodiesel, bio ethanol and Bio methane using waste waters. The centre is established in the year 2010 to integrate different R&D activities being carried out in a most efficient manner and to plan and pursue technologically advanced Research emerging area.

Existing facilities



PEM water electrolysis unit for Hydrogen production



Ethanol Reforming Unit for Hydrogen production



Flame reactor unit for CNTs nano metal oxide synthesis



Chemical Vapour Deposition Unit (CVD) for CNT & graphene synthesis



Hydrogen adsorption for hydrogen Storage on CNTs



Experimental apparatus for Bio- Hydrogen Production



THERMO CATALYTIC DECOMPOSITION REACTOR



PEM Water Electrolyser for Hydrogen Production

Instrumental Facilities:

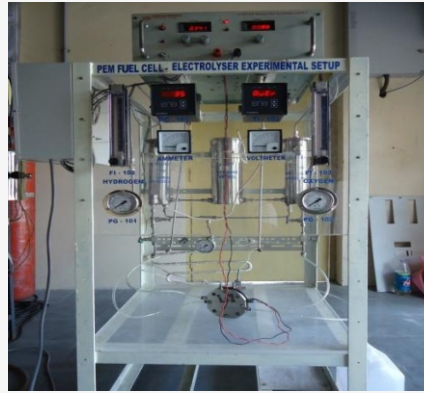
Prototype Hydrogen generator, Potentiostat/ Galvanostat, Pneumatic Hot press, Vacuum Oven Flame Synthesis Unit, Chemical Vapour Deposition, (CVD) Hydrogen Adsorption Unit, Bioreactor, Gas Chromatography(GC) Gas Chromatography with Mass spectroscopy(GCMS), Inductive couple plasma(ICP), High performance liquid chromatography, Fourier transform infrared spectrometer(FTIR)

Objectives

- To develop renewable energy system integrated with Photovoltaics, PEM water electrolyser, Fuel cell, battery and hydrogen storage tank.
- To develop Unitized Regenerative Fuel cell based on PEM
- To develop alternative membranes such as PEEK, SPEEK etc.,
- To develop hydrogen production technologies using PEM water electrolysis, TCD, Ethanol reforming, biohydrogen.
- To develop Hydrogen storage materials and fuel cells.
- To develop technologies for Bio fuels such as biodiesel, bio ethanol and bio methane.

Completed projects in the relevant areas include

- Design and Development of fully automated Prototype hydrogen generator for production of hydrogen using solid polymer electrolyte (SPEA) Sponsored by BARC (Bhabha Atomic Research Centre), Mumbai-60Lakhs.
- Thermo catalytic decomposition(TCD) of hydrocarbons for production of hydrogen-Sponsored by UGC (University Grant Commission), New Delhi- 6Lakhs
- Design and development of novel hydrogen storage materials-lithium intercalated fullerenes and carbon nano tubes using flame synthesis. Sponsored by Defence Research and Development Organization (DRDO), New Delhi-48Lakhs.
- Design and development of Biohydrogen production from renewable organic wastes-Sponsored by MNRE (Ministry of New and Renewable Energy), New Delhi-19Lakhs.
- Biodiesel production by using native micro algae using industrial wastewaters and industrial stack emissions Sponsored by Department of Biotechnology (DBT), New Delhi-17Lakhs.
- Hydrogen production through Biological routes Sponsored by MNRE (Ministry of New and Renewable Energy), New Delhi-60Lakhs.
- Development of PEM, AEM and Alkaline water electrolyzers for hydrogen production Sponsored by BARC (Bhabha Atomic Research Centre), Mumbai-33Lakhs.



REGENERATIVE FUEL CELL



PEM Fuel Cell



Photo Bio Reactors



Algae Culture racks



Raceway ponds



Bio Hydrogen reactors



Dr. V. Himabindu

Professor & Head

Teaching Experience : 21 Years

Research Experience : 25 Years

No. of Publications : 199

No. of Books : 1

No. of Patents : 1

No. of Ph.Ds Guided : 19

No. of Ongoing R&D Projects : 2

No. of Completed R&D Projects : 27

No. of Conferences/ Workshops/ Trainings attended : 37

Areas of Research: Environment & Energy

RESEARCH INNOVATIONS

- The flame reactor has been indigenously designed to produce nano carbon materials and nano metal catalysts like TiO_2 , ZnO , SiO_2 , NiO etc.
- Chemical Vapour deposition (CVD) unit is designed indigenously to synthesis Carbon Nano Materials like CNT's, N- CNT's, S- CNT's etc.
- The Flame Synthesized and CVD Synthesized Carbon Nano Materials like CNT's, N- CNT's, S- CNT's, Graphene etc are used as a catalyst support for Electrocatalysts material in PEM water Electrolyser and PEM Fuel cell.
- In Fuel cell setup prepared MEA are tested at different hydrogen and oxygen at different flow rates for production of electrical energy



EXAMINATION REFORMS BY THE INSTITUTE

- CBCS (Choice Based Credit System) has been introduced from the Academic year 2015.
- Anti – Plagiarism Check has been introduced from academic year 2015 for the thesis quality check.
- A measure of student's performance, a 10-point absolute grading points has been implemented from the academic year 2015.
- Spot valuation system has been implemented from the academic year 2015 onwards to speed up the process of result declaration and to maintain confidentiality.
- End semester examination Question papers moderation has been implemented at OIE office from the academic Year 2018-2019.
- Implementing Out Come Based Education (OBE) form the academic year 2018-19.
- Question bank system is being implemented from the academic year 2019.
- Project late submission was only 4 years before and it has extended to 6 years with a penalty as per university norms through the approval from academic Council Meeting.

TEACHING LEARNING METHODS ADOPTED BY THE INSTITUTE

- | | |
|-------------------------|---|
| ➤ Flipped Class Rooms | ➤ Question Answer Methods |
| ➤ Interactive Procedure | ➤ Group Discursion |
| ➤ Tutorials | ➤ Seminars |
| ➤ Assignments | ➤ Laboratory Methods |
| ➤ Field Trips | ➤ Presentations (PPT) |
| ➤ Workshops | ➤ Field Work/ Survey |
| ➤ Smart Class Rooms | ➤ MOOCS, E-learning and Online Lectures |
| ➤ Personalised Learning | |

e-LIBRARY

The Institute has established a separate E- Library for use by its students. It consists of 30 advanced computer systems through which the students have online access to E-books worth of 20 lakhs with perpetual license. The e-books can be downloaded through online access by URL links of Springer, Science direct, IEEE and e-journals like American Chemical Society, American Institute of Physics, American Physical Society, Cambridge University Press, Economic & Political Weekly, Indian Journals.com, Institute of physics, ISID, JCCC, Oxford University Press, Project Muse, Royal Society of Chemistry, Springer Link, Taylor & Francis, Web of Science, Wiley Black Well and many others are accessible to the students. The e-library will help students to improve their core domain knowledge and technical skills. Scifinder- a research discovery application from American Chemical Society is provided for all the systems to help the student to access for worlds most comprehensive literature survey for execution of projects and research work.

UNIVERSITY LIBRARY

University library is located within the main campus, rich in resource, In terms of books, journal holdings and state of the art facilities which caters to the needs of students, faculty and research scholars of various disciplines like engineering, science and management. The University library has over 93,200 books and is subscribing 95 technical journals in various subject fields. The library also subscribes to abstracts of 120 journals from national centre for science information, IDUFR Bangalore under COPSAT services through INFLIBNET and provides services like current awareness services, selective dissemination services, indexing along with normal services such as reference and referral, literature searching by bibliographic data and online searching. The library has audio visual library with two color TV's and VCR's with a small number of video tapes on subject fields. The library has internet facility .The digital library with e-books, e-Learning materials and e-journals are available.In Addition to this, Departmental Libraries are also available for the faculty and students in respective Centres.

OUTREACH PROGRAMS

- Visiting Schools in Telangana State for motivating students towards science and Technology
- Providing awareness to school children, Rural Water Supply engineers, society, and trainees
- Honorary Consultant to CNGO Society for Energy & Environment Development (SEED)
- Mentoring NGO – Revolution Let's Change
- Extending Laboratory facilities for analysis
- Visited various Govt. Agencies for Rain water harvesting : Central University, Hyderabad , ESCI, Hyderabad, IIT Hyderabad, IOCL Kadapa, Ordinance Factory, Medak, TTD, Tirupathi, APARD Hyderabad, EEI Rajendra nagar, Sri Venkateswara University, Tirupathi , RWS engineers, Govt of TS, RWS (Rural water supply) engineers, Govt of AP
- NSS Activites: Associated with NGO (Ex. Thalassemia Association) in connection with Blood Donation Awareness NSS Programm
- One of our student Mr. M. Umashankar is awarded with Best volunteer for Vittiya Saksharatha Abhiyan (VISAKA) and Indira Gandhi National Award for Best NSS Volunteer from the president of India .
- Promotion of Clay idols of Lord Vinayaka for “Vinayaka havithi” as a eco-friendly measure
- Pulse Polio awareness campaign with UNIEF (June 2016)

INNOVATIONS AND BEST PRACTICES

- Rain water Harvesting and Waste water Treatment: CWR, IST, JNTU Hyderabad has established a robust Rainwater Harvesting Systems in the campus. With the existing setup of RWH, we can harvest 6.0 crore liters of surplus runoff every year. 20 Rain water harvesting structures are constructed in the campus to take care of surplus rain water.
- Energy Conservation: Energy saved is energy produced. Energy saving techniques are implemented such as the lights and fans are switched off by floor peons and staff after the working hours. Institute Classrooms are provided with sufficient natural ventilation and light so that the use of electricity can be minimized. Replacement of high energy consuming tube lights with low energy consuming ones.
- Plantation: In the University tree plantation is carried out on either side of roads to keep the campus green. “Swachh Bharath campign” is conducted to keep the campus clean and green.
- E-Communication: Most of the communication is e-communication through Emails, whatsapp group and SMS system
- Sewage Treatment Plant (STP)

PROJECT WORK

- In order to introduce the students to the main research they have been given the task to complete the mini project before the main project, thereby students are equipped with research skills
- During the main project more than 50% of the students from the Institute are doing their thesis work in the R&D organization of national and international repute in and around the Hyderabad city.
- The University has a very liberal policy of sharing the consultancy amount with the faculty who have performed it.

CO-CURRICULAR ACTIVITIES

The students are encouraged to participate and present their works/papers in national seminars conferences and competitions conducted by other universities and institutions. One of our student has been awarded first prize at Anveshan 2009 which is a national level student research convention conducted by Association of Indian Universities.

The Institution is actively involved in conducting the faculty development programmes, workshops and conference for improving the faculty awareness and research activities. The faculty members are encouraged to attend national and international trainings programs to update their knowledge and skills.

Industrial tours and expert lectures are organized on a regular basis. Students participate in conferences, workshops and community service activities organized by the institute. English language and personality development classes are being organized regularly.

OTHER AMENITIES

HEALTH CENTRE

Health Centre is furnished with 08 beds and dispensary. The Health Centre is headed by a full-time doctor working on deputation from the Government Service and supported by the Pharmacist and staff. The centre also has visiting doctors available on two days in a week. The Health centre has 4 General Wards and 4 Consultation rooms.

SPORTS AND RECREATIONAL FACILITIES

University promotes sports, cultural and literary activities to ensure academic, social and spiritual growth of every student. The programs help them build communication and soft skills. To encourage independent creativity among students in arts, activities, round the year competitions like poster competitions, paintings, rangoli competitions are held at various levels. Basket ball court, volley ball Court, cricket and modern Gym are provided within the campus.

The Department is headed by a Professor of Physical Education supported by two Assistant Physical Directors and two Grounds men. The University is extensively promoting sports and games through its Constituent/Affiliated Colleges, Institutes, and Schools.

ACCOMMODATION

The institute provides state of the art accommodation for students. Gautami Hostel accommodates the PG Boys and Girl students are accommodated in Gayathri hostel with all modern amenities like steam cooking, reading room, Gymnastic room, computer room, dining hall, hot water facility and free Wifi.

**SUCCESSION LIST OF DIRECTOR'S
INSTITUTE OF SCIENCE AND TECHNOLOGY**

S.No.	NAME	FROM	TO
1.	Dr. B. Sanjeeva Rao	Dec 1990	July 1992
2	Dr. G. R.Babu	July 1990	Aug 1994
3	Dr. D. Ramadurgaiah	Sep 1994	May 1995
4	Dr. K.V.K Nehru	May 1995	Aug 1996
5	Dr. N. Sriramulu I/c	Aug 1996	Sep 1996
6	Dr. G. Jagmohan Das	Sep 1996	June 1998
7	Dr. P.S Kesava Rao I/c	June 1998	Oct 1998
8	Dr. M.V Lakshmi Prakash	Oct 1998	June 1999
9	Prof. M.R.K Reddy	June 1999	Dec 1999
10	Dr. I.V. ramana	Dec 1999	July 2002
11	Dr. A.K Asthana I/c	July 2002	Sep 2002
12	Dr. Ch. Penchalayya	Sep 2002	Oct 2002
13	Dr. A.K Asthana I/c	Nov 2002	Nov 2002
14	Dr. Ch. D. V. Paradesi Rao	Nov 2002	Dec 2003
15	Dr. Y. Anjaneyulu	Jan 2004	Oct 2005
16	Dr. I. V. Murali Krishna I/c	Nov 2005	Dec2005
17	Dr. M. Anji Reddy	Jan 2006	Jan 2008
18	Dr. I. V. Murali Krishna	Jan 2008	Sep2008
19	Dr. M.Lakshmi Narasu	Sep 2008	Dec 2011
20	Dr. K. Mukkanti	Dec 2011	Jun 2014
21	Dr. N. V. Ramana Rao I/c	Jul 2014	Oct 2014
22	Dr. A. Jaya Shree I/c	Oct 2014	Jan 2018
23	Dr. B. Venkateswara Rao	Jan 2018	Till Date





Correspondence Address

Director IST, JNTUH
Institute of Science and Technology (Autonomous)
Jawaharlal Nehru Technological University Hyderabad
Kukatpally Hyderabad-500085
Mobile: +91-8008103809
Email Id: istdirectorjntuh@gmail.com
Website: jntuhist.ac.in