



commuNITy

The official newsletter of NIT Tiruchirappalli

MAY-JUNE
JULY-AUGUST
2019

ISSUE 3.4 | VOLUME 2

THEME:
CONVOCATION



Director's Message



Dear Friends,

Greetings. I am so glad that the editorial team of commuNITTy has decided to present this issue as Convocation Special. As a matter of fact, Convocation ceremonies date back to medieval times. The word Convocation etymologically is derived from Convoke, which means coming together for a meeting. Convocation is indeed a special meeting called by the Chairman of the Institute and a unique coming together of graduands, special guests, Director, members of the BoG and Senate, Deans, Heads of Departments, faculty-members etc. Of late parents and friends are also included in this colourful coming together of luminaries. The transformation of Regional Engineering College, Tiruchirappalli as National Institute of Technology, Tiruchirappalli, saw her as a degree awarding Institute and the Convocation for the first two batches of graduands was held in 2005. Eminent Academician Dr. M.S. Ananth, Former Director of IIT Madras graced the occasion as the Chief Guest. In 2007, Former President of India, Dr. A.P.J Abdul Kalam came down to NIT Trichy as the Chief Guest for the Convocation Ceremony. It was a moment of great pride for the Institute as well as the graduands who received their degree from our country's 'Missile Man'. Dr. V.K. Saraswat, the then Director of General, DRDO presided over the Convocation Ceremony in 2011. Dr. R. Chidambaram, Former Principal Scientific Adviser to the Government of India, graced the Convocation Ceremony in 2013 as the Chief Guest. Renowned financial expert Shri R Seshasayee and Academician Dr R Nityananda have convened the earlier convocations of NIT, Tiruchirappalli. I convened the Convocation for the year 2017 as the officiating Chairperson of the Board and the 13th Convocation Ceremony had Padma Vibhushan N. R. Narayana Murthy, Founder, Infosys as the Chief Guest. Shri N. Chandrasekaran Chairman, TATA Sons was conferred the degree of Doctor of Letters (Honoris Causa) by the Institute. Prof. Anil D. Sahasrabudhe, Chairman, AICTE, graced the Convocation Ceremony in 2018. 27th of July 2019 marked the 15th Convocation of NIT Tiruchirappalli. Prof. Subra Suresh, President, NTU, Singapore was the Chief Guest. I hope more luminaries will be part of the convocation in the future.

Prof Mini Shaji Thomas
Director

CONTENTS

ARTICLES

NATIONAL INSTITUTE OF TECHNOLOGY - TIRUCHIRAPPALLI XV CONVOCATION	01
SMART INDIA HACKATHON 2019	02
ISRO - SPACE TECHNOLOGY INCUBATION CENTRE AT NIT TIRUCHIRAPPALLI	04
ORIENTATION 2019	05
THREE NIT TRICHY ALUMNI HONOURED WITH DISTINGUISHED ALUMNI AWARD 2019	06
INTERNATIONAL CONFERENCE ON MICROWAVE INTEGRATED CIRCUITS, PHOTONICS AND WIRELESS NETWORKS	07
NATIONAL CONVENTION OF PRODUCTION ENGINEERS	07
NIT TIRUCHIRAPPALLI AS THE COORDINATING INSTITUTE FOR THE CENTRAL SEAT ALLOCATION BOARD-2019	09
NIT TIRUCHIRAPPALLI DIRECTOR ELECTED AS THE VICE PRESIDENT OF SHASTRI INDO-CANADIAN INSTITUTE	10
DIRECTOR OF THE SHASTRI INDO-CANADIAN INSTITUTE ON BI-NATIONAL LINK	10
MOU BETWEEN NIT, TIRUCHIRAPPALLI AND TAMIL NADU NATIONAL LAW UNIVERSITY (TNNLU), TIRUCHIRAPPALLI	11
NIT TIRUCHIRAPPALLI SIGNED MOU WITH CENTRAL DEPOSITORY SERVICES LIMITED (CDSL)	11
MAMCET SIGNS MOU WITH SIEMENS CENTRE OF EXCELLENCE IN MANUFACTURING, NIT-TIRUCHIRAPPALLI	12
TRAINING THE TRAINERS ON 21 ST CENTURY SKILLS EDUCATION CONVOCATION - THROUGH THE YEARS	12
HISTORY OF CONVOCATION	13-18
COMPUTATIONAL INTELLIGENCE FOR MULTIMEDIA	15-16
MULTIPLE AVENUES OF INCENTIVES FOR SOLAR PV INSTALLATIONS	19
SHORT TERM COURSE ON NUMERICAL ANALYSIS USING MATLAB	19
SHORT TERM COURSE ON SPEECH AND LANGUAGE PROCESSING	20
RECENT TRENDS IN GEOTECHNICAL ENGINEERING	20
CAD BASED MODELLING OF OPTICAL FIBERS AND PHOTONIC DEVICES FOR COMMUNICATION, SENSING, AND INDUSTRIAL APPLICATIONS	21
NECESSITY OF CALIBRATION FOR RESEARCH AND INDUSTRY SECTOR	21
WORKSHOP ON BIOENERGY, BIOFUELS AND BIOREFINING	22
MBA ORIENTATION PROGRAM	22
DISTINGUISHED GUEST LECTURE ON TECHNOLOGY IN SPACE SCIENCE	23
DISTINGUISHED LECTURE ON ANTENNAS FOR DEFENSE APPLICATIONS	23
ORIENTATION PROGRAMME BY IEEE STUDENT BRANCH	24
SPECIAL GUEST LECTURE ON RESEARCH - NOT A NIGHTMARE!	24
MACHINE MODELLING USING MATLAB	24
WORKSHOP ON APPLICATION OF SOFT COMPUTING TOOLS IN DISASTER MODELLING	25
WORKSHOP ON INDUSTRIAL PROCESS AUTOMATION	25

PUBLISHED BY PUBLIC RELATIONS AND MEDIA TEAM

Dr.S.Arul Daniel
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CONTENTS

ARTICLES

MICROWAVE ENGINEERING REVOLUTIONIZES THE MEDICAL FIELD	26
WORKSHOP ON GEOTEXTILE REINFORCED SUSTAINABLE PAVEMENTS	27
WORKSHOP ON POWER QUALITY ENHANCEMENT IN DISTRIBUTED GENERATION	27
NIT TIRUCHIRAPPALLI RECEIVED RS.7.00 CRORES GRANT UNDER SCHEME FOR PROMOTION OF ACADEMIC AND RESEARCH COLLABORATION (SPARC)	28
LIST OF R&D PROJECTS SANCTIONED	28
LIST OF CONSULTANCY WORK UNDERTAKEN	29
LIFE TIME ACHIEVEMENT AWARD TO DR. S. RAGHAVAN	29
BOOK ON PERIODIC TABLE OF ELEMENTS	30
ARTICLE IN THE HINDU/EDUCATION PLUS	30
STAFFS RETIRED FROM SERVICE	30
SPIC MACAY	31
INAUGURATION OF IEEE ANTENNAS AND PROPAGATION STUDENT CHAPTER	31
IGNITTE CLUB TRAIN GOVERNMENT SCHOOL STUDENTS FOR JEE EXAMINATION	31
INTERNATIONAL YOGA DAY CELEBRATIONS AT NIT, TIRUCHIRAPPALLI	32
NEW COURSE ON BUSINESS AND ENTREPRENEURSHIP FOR ENGINEERS (BEE) BY NIT TIRUCHIRAPPALLI ALUMNI	32
GOLDEN JUBILEE FRIENDSHIP REUNION – REC/NIT TRICHY CLASS OF 1974	33
NITT IN NEWS	33

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National Institute of Technology - Tiruchirappalli XV Convocation



National Institute of Technology – Tiruchirappalli organised its XV convocation on 27th July 2019 at Golden Jubilee Convention Hall. Professor Subra Suresh, the President of Singapore’s Nanyang Technological University (NTU) was the chief guest.

Board of Governors and chairpersons inaugurated the convocation. Then, Dr. Mini Shaji Thomas, the Director of NIT, Tiruchirappalli welcomed the gathering and greeted the graduands receiving the degree. She was delighted in enumerating the accomplishments of NIT-Tiruchirappalli, retaining the first position among other NITs, achieving 10th position with regard to Engineering, 7th best in Architecture and 17th best in Management schools across the country and highest number of publications in SCOPUS and Web of Science indexed journals. In addition, she listed the initiatives of

NIT-T say, collaboration with ISRO, establishment of Space Technology Incubation Centre (S-TIC), the only NIT to organize Leadership for Academicians Program (LEAP) in collaboration with Nanyang Technological University, Singapore, and the Indian Institute of Information Technology, Chittoor, the Runner up prize at the Indo- Singapore Hackathon 2018. She felt proud in declaring NIT-T as the nodal centre for conducting the Smart India Hackathon 2019 Hardware & Software Editions and coordinating Institute for CSAB (Central Seat Allocation Board) 2019. Besides, she proclaimed that NIT-T ranked third among the Centrally funded Technical Institutions in Swachh Campus Ranking and had introduced solar rooftop systems, biogas plant, food court, greenhouse, supermarket to augment its resources. In addition, she mentioned that Dr Montek Singh Ahluwalia, former Deputy Chairman of Planning Commission of India inaugurated ‘CAPSTONE’, the new Training and Placement building. Besides these achievements, she announced the commencement of M.Sc. in Mathematics, M.A. programme in English Language and Literature in the pipeline, new M.Tech. programmes in the emerging areas, and a unique course on Business for Engineers and Entrepreneurs. She stated that NIT-T as a socially responsible institution collaborated with Indian Institute of Food Processing Technology, Tanjavur and developed prototype of solar-assisted cold storage facility which can preserve vegetable and fruits without expending electrical power. She enunciated that, with an aim to expand the global footprint and to reshape as a cosmopolitan institution of the 21st century, NIT Tiruchirappalli established a functional office of Alumni-Institute Interaction Cell. She pledged that the NIT-T mantras for the next few years would be internationalization, interdisciplinarity and multiversity.

On Congratulating the graduates, the chief guest Dr. Subra Suresh communicated the possible consequences of technology poised to shape this world and the opportunities and challenges that NIT-T graduates need to face the avenues of technological influence impacting India in the global society. In the perspective of Industry 4.0, he emphasized the need for a purposeful life that builds on a University education. The unique convergence of the digital, physical and biological worlds had created technological advances that are expected to transform the daily lives of ordinary citizens around the globe, at an unprecedented and ever-accelerating pace in this era of the fourth industrial revolution. So, he called for a meaningful contribution from the graduates of NIT- Tiruchirappalli taking a humanistic perspective in this digital era. He added that they are positioned to maximize the benefits of technology, minimizing the deleterious effects apart from engaging in their professional and personal lives. The talented and well-trained graduates can make it happen and ensure that the new opportunities afforded by Industry 4.0 are carefully balanced with the human conditions, in the diverse geopolitical and cultural landscape of India.

Director, NIT-Tiruchirappalli conferred the degrees to 1721 graduates comprising 51 B.Arch., 812 B.Tech., 18 M.Arch., 468 M.Tech., 77 MSc, 89 MCA, 85 MBA, 23 M.S. (by research) students and 98 doctorates. This was the highest number attained by NIT-Tiruchirappalli so far. The prestigious President's Medal for overall highest CGPA of 9.94 was received by Rupesh Gupta of B. Tech, Electronics and Communication Engineering. Institute medals were received by 9 B.Tech., 1 B.Arch., 21 M.Tech., 1 M. Arch., 4 MSc., 1 MCA and 1 MBA graduands. The first batch of M Tech Data Analytics graduated this year. Adding a feather to the cap, the students of NIT-T accomplished notable fellowships say, 4 Cargill Fellowships, 12 DAAD, 6 MITACS and SN Bose, 34 Deity Scholars and 55 MITACS. She mentioned that these are the first batch graduated through the flexible curriculum and more than 500 students received minor degrees for the first time.



Smart India Hackathon 2019

National Institute of Technology - Tiruchirappalli, one of the nodal centres selected by the Ministry of Human Resource Development (MHRD) successfully hosted the five-day Smart India Hackathon-Hardware Edition (SIH-2019) event from 8th to 12th July 2019. There were 14 teams with a total of 84 student participants and 28 mentors, who actively engaged and rigorously brainstormed for more than 100 continuous hours cracking the problem statements under the three broad themes pertaining to Agriculture and Rural Development, Smart Vehicles and Energy/Renewable Energy. All the participants encompassing 55 boys and 29 girls showed great enthusiasm and energy during the course of the event.



During the inauguration, Dr. Samson Mathew, Dean (Students Welfare), NIT-Trichy welcomed the gathering, and Dr. M. Umopathy, Dean (Research and Consultancy), NIT-Trichy delivered the presidential address. In his presidential address, he emphasized on the importance of technology transfer to products through start-ups in a city and stated that the type of city influences that commercialization of products. Besides, he insisted that the economy of the nation will flourish automatically, if the needs of the society are satiated.

Then, the chief guest, Dr. C. Anandharamakrishnan, Director, Indian Institute of Food Processing Technology (IIFPT), Thanjavur spoke on the necessity of Smart India Hackathon Hardware edition for the present situation of India and declared it to be a great initiative in identifying hardware solutions for the major problems prevailing in Agriculture and other technologies. Dr. Mini Shaji Thomas, Director, NIT-T expressed her profound gratitude to the chief guest for inaugurating this event and suggested the chief guest to take-up a project and ensured him that NIT-Tiruchirappalli will provide facilities to make the project, a reality. Further, she congratulated the team members, students and others who have worked hard to make this a successful event. Finally, Dr. S. Jerome, Associate Dean (Students Welfare) thanked the MHRD, the chief guest, Director, NIT-T, Dr. Umopathy, Dr. Samson Mathew, and Dr. M. Bhaskar, NIT T for their dynamic support and strenuous effort. Besides, he conveyed his heartfelt thanks to the Deans, Registrar, HoDs, Chairman and Secretaries, NIT-T and the media, industrial guests and mentors for their support and encouragement. Eventually, he exhibited his special gratitude to the faculty members, staff, students and participants for their diligence in making the event possible.



The Grand finale contest for 250 teams was held in parallel sessions at 19 nodal/host centers all over India for 5 days under 14 different themes. This grand finale event was simultaneously inaugurated in all the nodal/host centers by Hon'ble MHRD Minister (Shri) Dr. Ramesh Pokhriyal through Video Conferencing. Mr. Sukhbir Singh Sandhu, AS (TE) & CVO, MHRD welcomed the gathering. Dr. Anand Deshpande, Chairman and MD, Persistent Systems Ltd., enunciated that this SIH – Hardware edition would be a great transformational experience for the students as well the nation. Then, Prof. Anil Sahasrabudhe, Chairman, AICTE, congratulated the participants and insisted that this is the one and only hackathon in the world that promotes the creativity and innovation of the students providing hardware solutions to 124 problems prevailing in Indian sectors, as a move towards smart India. Mr. Sanjay Shamrao Dhotre, Hon'ble Minister of State, HRD proclaimed that this is an open innovation forum for the students to exhibit their talents. This programme provides an opportunity for the students to think 'out of the box' and provide novel and workable solutions, which will lead to commercial products in developing start-ups. Then, Dr. Ramesh Pokhriyal asserted that this SIH 2019 – Hardware Edition was one of the many initiatives by the PWO and MHRD to promote India as a leading nation in the world and added that this initiative encourages the young talent pool to showcase their skills. Moreover, he compared the Indian and world ranking systems and recommended the NITs, IITs, and IIITs to adopt 5 to 10 villages to engineer need based solutions so that the technology would reach the grassroots. He was delighted to announce the three-fold increase in the student participation compared to the last year.



The Chief Guest Shri S. Kumar, Additional GM, Ordnance Factory, Tiruchirappalli delivered the Valedictory address on 12th July 2019. He addressed that grand technical events like SIHH-2019 could help India in realizing the 5 trillion-dollar economy target as envisioned by our Prime Minister. He thanked the crucial roles of MSME, AICTE and Ministry of Agriculture and Rural Development for their immense support in helping the younger minds to realize their ideas into working models. He appreciated the teams for working on such projects in a short span of time. He suggested the participants to evolve the products developed for smart vehicles category into defence vehicles so that it would help the Defense Ministry of India. He concluded his speech quoting Albert Einstein, insisting the students to contribute innovative and useful products and prototypes to the society.

Finally, Dr M. Bhaskar, Professor of ECE and coordinator, SIHH 2019 expressed his gratitude towards MHRD and Director of NIT-T for their immense support in organizing this event. Besides, he thanked the participants, Design mentors, Faculty members, Judges and Staff of the Institute for their valuable presence, dedication and efforts. Further, he thanked the student volunteers, media team and others for their hard work and diligence to make the event a grand success. The presented solutions were judged on various criteria say innovativeness, social and economic impact and Business potential and the following teams won the trophy and prizes.



Finally, Dr. Abhay Jere, Chief Innovation Officer, MHRD's Innovation Cell thanked MHRD ministers, AICTE, Persistent Systems Ltd. and other partners for their support in organising this event. He thanked the nodal centres for their facilities, participants for their hard work and innovation, and Doordarshan for promoting and promulgating the event.



1. The Team AGRO YANTRIKIES from Nashik, Maharashtra with the problem statement entitled Smart onion planter for the theme Agriculture and Rural Development bagged the trophy and first prize of Rs.1 lakh.
2. The Team Social developers from Nagpur, Maharashtra with the problem statement entitled Hand Gesture Controlled Wheelchair for the theme Smart Vehicles was awarded the first runner up with a cash prize of Rs. 75,000/-.
3. The Team CIVIMECHOS from Vijayawada, Andhra Pradesh with the problem statement entitled Vertical Axis Wind Turbine for the theme Energy/Renewable Energy was awarded the second runner up with a cash prize of Rs. 50,000/-

ISRO - Space Technology Incubation Centre at NIT Tiruchirappalli

Space agency-ISRO inaugurated its Space Technology Incubation Centre (S-TIC) in NIT, Tiruchirappalli and a memorandum of understanding was signed on the same day, 29th May 2019. It was unveiled remotely by Dr. K. Sivan, Chairman, Indian Space Research Organization (ISRO), Secretary, Department of Space, Government of India from the ISRO Headquarters, Bengaluru in Karnataka. This is the first of its kind incubation centre in Southern Region of India, aimed at developing innovative indigenous technologies that could be used for future ISRO projects which would significantly be decreasing the cost.

Dr. M. Umapathy, Dean (Research & Consultancy) welcomed the gathering, followed by the keynote address by Dr. Mini Shaji Thomas, Director, NIT-T who addressed the dignitaries, faculty members, industry partners and student/research scholars about the golden opportunity available for the student community across the southern region to innovate an idea and develop a viable product commercially, thereby contributing to the Indian Space programme with the support of ISRO scientists.

“The ISRO - Space Technology Incubation Centre opened at the National Institute of Technology (NIT) at Tiruchirappalli, incubate startups to build applications and products in tandem with the industry and they would be used in future space missions,” said ISRO Chairman K. Sivan during his inaugural speech.



Space Technology Incubation Centre (S-TIC) is a novel concept conceived by ISRO to tie up the Academia, Industry and R&D institutions in different regions of the country. S-TIC provided projects of importance to the ongoing and futuristic programmes of ISRO for the Research, Post Graduate and Under Graduate students. This is expected to inculcate the much-required research culture among the student community. The final year students will be exposed to the problems of importance and relevance to ISRO, and the proof of concept or the prototype developed by them will be validated by the nearby tie-up industries. The products once realized will be validated and qualified with the existing facilities of ISRO. Once qualified, they can be inducted in the ongoing projects of ISRO and buy back arrangement can be made. This in turn, would motivate the students to think differently in order to initiate start-up enterprises, which can generate employment. The first Southern region, S-TIC is being originated to encourage space-related research activities in that region.



The centre is expected to bring the industry, academia and ISRO triad under one umbrella to contribute towards the Research and Development (R&D) initiatives relevant to Indian Space Programme, that was briefly explained by Dr. P. V. Venkatakrisnan, Director, Capacity Building Programme Office (CBPO), ISRO- HQ.

Finally, Dr. Jiwan Kumar Pandit, Associate Director, Capacity Building Programme office (CBPO), ISRO- HQ, thanked the NIT-T fraternity, industry partners from CII, BHEL, TIDISSIA, Student/ Research scholars and members from press and media for making the event a grand success.



Orientation 2019

The National Institute of Technology, Tiruchirappalli observed a three-week-long orientation program for the B.Tech./B.Arch. students of the batch 2019-23. The program started on 29th July 2019 with the inaugural function, where the students and parents were addressed by Prof Mini Shaji Thomas, Director, NIT-Tiruchirappalli followed by the Deans and Heads of the Departments.

The program involved many lectures from the guests, alumni & Deans. Guest Lectures were delivered by Madhavan Chandradathan (Indian Space Scientist and Former Director of VSSC, Trivandrum), Nuzhat Parveen (Member of Indian Women's Cricket Team), Sri Ramya (AIR 32 in UPSC 2014) and Ajay Chaturvedi (Entrepreneur).



The events for acquaintance with the college atmosphere were organised. To mention few, Department visits, an open house with the Students' Council, an interaction with the Sports Council, briefing about NSS/NCC/NSO, fest introduction, sports and games, performances by the Dance & Music Troupes, SPIC MACAY, Thespians' Society and Amruthavarshini, Yoga, sessions by Yourdost.com, an awareness about fellowships & scholarships, bridge courses, etc. There was also a fire and safety session that taught the students the importance of safety during various fire emergencies, and an interactive session about Disaster Management.



The orientation program for the freshers came to an end on 15th August 2019 after a Valediction Ceremony.



Three NIT Trichy alumni honoured with Distinguished Alumni Award 2019

NIT Tiruchirappalli felicitated three of the institute's Alumni with the 'Distinguished Alumni Awards' on the 16th of August 2019. The Award Ceremony started with a Welcome Address by the Associate Dean (Alumni Relations) Dr. Nisha Radhakrishnan. The president of the institute's Alumni Association RECAL Mr. Krishna Sai spoke about the Alumni Institute Interaction Cell which aims to bring together the Alumni and the Institute Administration to develop the Institute. The Director of the Institute, Dr. Mini Shaji Thomas then addressed the gathering and explained the meticulous selection process involved in selecting the Awardees. She congratulated the Award winners and highlighted their contributions to the Institute. She then gave away the awards to the Award Winners.



Mr. Rajan Narayanan (Late) an Alumnus of the 1979 batch from the Electronics and Communication Department was honoured posthumously for 'Excellence in service to the Society'. He has been instrumental in establishing the Alumni Association RECAL and has had an enviable corporate career after which he ventured into public service. He used his corporate expertise to create mentorship platform organisations for nonprofit such as Baale Mane, Diya Foundation for fundraising and expansion activities. The Institute conferred the Award to him in recognition of his splendid contributions to the field of mentoring young entrepreneurs and alumni networking of the Institute.

Prof. Ram Vasu Mohan an Alumnus of the 1985 batch from the Department of Mechanical Engineering was honoured for Excellence in Academic / Research / Innovation / Invention. currently a Professor of Nanoengineering at Joint School of Nanoscience and Nanoengineering of University of North Carolina System at North Carolina A&T University where he has been serving since 2003. He is currently leading the computational nanoengineering research. He is also an Adjunct Professor of Nanoscience at Joint School of Nanoscience and Nanoengineering. He has been recognized for his splendid contributions to the field of composite materials and Nanoengineering,

Rear Admiral Sreekumar Nair an Alumnus of the 1986 batch from the Department of Electronics and Communication Engineering was honoured for Excellence in Public Administration. He is the Assistant Chief of Materials (Information Technology and Systems), at Integrated Head Quarters, Ministry of Defence (Navy). In his present role, he heads the Indian Navy's Information Technology, Artificial Intelligence and Electrical & Electronics Weapons & Sensors maintenance group. He has earlier served as Chief Staff Officer (Technical), of the Southern Naval Command and as the Director of Personnel, at Naval Head Quarters. He has been awarded for his service to the Navy in particular and to the Nation at large.

The Dean (Institute Development & Alumni Relations) Dr. Raman Sankaranarayanan concluded the ceremony with a vote of thanks and said that such ceremonies honouring the Alumni of the Institute encourages the students to give back to the Institute after they graduate and brings the Alumni and Institute closer together.



International Conference on Microwave Integrated Circuits, Photonics and Wireless Networks

The Department of Electronics and Communication Engineering, NIT Tiruchirappalli, organized an International IEEE conference on 'Microwave Integrated Circuits, Photonics and Wireless networks' from May 22 to 24, in which around five hundred scholars and scientists across the world participated actively. With the acceptance rate of 65%, 140 research papers were selected by the peer review committee for oral presentation. The accepted papers will be sent to IEEE for possible uploading to IEEE Xplore, the most sought online conference journal representative from Japan. Drumhead Madihian, who presided over the conference, informed that research papers in Microwave Theory Technique journal are a measure of one's research caliber. Dr. Tapan K Sarkar, Professor, Syracuse University, New York, USA informed the delegates that approaching Antenna Theory through conventional network theory will make one understand Microwaves in a better way. Miniaturization is the mantra of tomorrow's defense technology, said Dr. Christopher, the ex-chairman, DRDO. He further told that frequency selective surfaces (FSS) is the new technology which will facilitate miniaturization. Senior Professor Dr. S. Raghavan, patron of the conference explained the various ways of diagnosis and therapeutic wonders available through microwaves in the healthcare industry.

There are state of the art hospitals in our country, and due to that, medical tourism keeps increasing day by day. Dr. S. S. Pattnaik, the Director, NITTTR Chandigarh explained the biological effects of Microwaves. Prof. K. P. Ray, Defense Institute of Advanced Technology, Pune informed the technical know-how of various antennas used in astronomy. The Principal of Thiagaraja College of Engineering, Madurai explained how the electromagnetic theory can be approached without advanced mathematics. Dr Chinmoy Saha, Professor, Indian Institute of Space Technology (IIST), Trivandrum and Dr. Pandeewari of NIT Tiruchirappalli brought out various applications of Metamaterials. Dr. G. Lakshminarayanan, the Organizing Chairman and Dr. S. S. Karthikeyan, organizing secretary, informed that the



standard of the conference has been rated high by the competent authority. The award "Distinguished Professor of Microwave Integrated Circuit" was conferred to the senior most professor of ECE Department Dr. S. Raghavan for his 40 years of contribution in the field of microwave engineering. The award was given by Dr. Christopher, Ex-Chairman DRDO in the presence of Dr. Mohammed Madhian, IEEE representative from Japan, Dr. B. Venkataramani, senior Professor, Department of ECE, NIT-T, Dr. G. Lakshminarayanan, HOD, Department of ECE, NIT-T, Dr. V. Abhaikumar, the chairman, IEEE Microwave Theory Techniques Society, Chennai chapter, Dr. S.S. Karthikeyan, Chairman, Antenna Propagation Society, IEEE Chennai chapter, the Director IIIT Trichy, Dr. N.V.N. Sarma and Dr. Tapan K Sarkar, Professor, Syracuse University, New York USA. The pre-conference workshop dealt with the topics on MATLAB for Microwaves, Frequency Selective Surfaces, Antenna Measurements Techniques and ADS design software familiarization. The conference successfully concluded on the third day with appreciable remarks by Dr. Mini Shaji Thomas the Director, NIT-T. While admiring the success of the three-day conference, she endorsed the suggestion of Dr. Mohammed Madhian of Japan that IMICPW will be a biannual event hereafter. Dr. P. Muthu Chidambaranathan, Dr. Sriram Kumar, Dr. B. Malarkodi and Dr. M. Bhaskar felicitated the organizers.

National Convention of Production Engineers

The inauguration of the 34th National Convention of Production Engineers 2019, organized by the Tiruchirappalli Local Centre of The Institution of Engineers (India) was held on 25th May 2019, Saturday at EEE auditorium, NIT Tiruchirappalli. As a part of this National Convention, a national conference on "Emerging Technologies in Power Sector Equipment Manufacturing" was held. This National Convention, sponsored by Production Engineering Division of IEI is the apex activity held once in a year aiming at the achievement of technical and professional growth through intensive technical content and mutual interaction.





In the inaugural address, Er. Shaji John, Director (Power), NLC India Ltd, complimented Tiruchirappalli local centre, IEI for selecting a relevant topic for the conference. He also highlighted the following aspects: Firstly, A nation's prosperity is judged by the per capita consumption of electricity. India's per capita consumption of electricity is 1200 kWh, which is well below the world average of 3200 kWh. The per capita consumption of the developed nations like USA, Europe and Japan is far ahead and in the range of 10000 to 18000 kWh. The installed capacity of India is 356 GW as on 2019 with contribution from Thermal at 63.5%, renewables at 22 % and the rest from Hydro, Nuclear, etc. Secondly, Indian economy is the world's sixth largest. It is poised to overtake Japan, Germany, UK, China, USA and to become the largest economy by the year 2050 with 7% to 8 % growth in the next three decades. If India's GDP has to grow at the level of around 7% to 8 %, necessarily the infrastructure and power sector has to grow at a compounded rate of 12%. Thirdly, today, in the energy mix, the share of power generation based on fossil fuel is around 63 % and the rest, comprising of renewable, hydro and nuclear is at 37 %. The gap between fossil fuel power generation and the rest will narrow down with more and more focus on renewables. In order to have a sustained and reliable growth, there has to be a proper energy mix. Hence, in our country coal/lignite-based energy should grow in tandem with renewable energy. Fourthly, many power utilities have already started implementing the advanced ultra-super critical technology which translates at higher boiler efficiency and lesser turbine heat rate that in turn leads to lesser fuel consumption and lesser emissions. In this scenario, the national seminar on "Emerging Technologies in Power Sector Equipment Manufacturing" assumes significance. And finally, Regarding NLC India Limited, he indicated that the company is having impressive track record with the establishment of first lignite mines in India and a 600 MW capacity TPS linked pit head power station in collaboration with USSR in the year 1956.

Today, apart from Thermal Sector & Lignite Mining, NLCIL is spreading its wings, promoting PAN India by venturing into various new horizons in energy domains like coal mining, coal-based power plants and renewable energy. It has also ventured into power trading energy mix. Hence, in our country coal/lignite-based energy should grow in tandem with renewable energy.

Dr. T.M.Gunaraja , President, The Institution of Engineers (India) and Former President Er. S.K. Banerjee were also present in the inaugural function. Dr. Gunaraja indicated that a large number of major technical events have been planned during the centenary year of the Institution of Engineers (India), which is starting from September 2019. He said that IEI has tied up with leading Institutes for enhanced learning platforms.

The function was presided over by Dr. Dev Kumar Tripathy, Chairman, Production Engineering Division Board, IET. In his presidential address, he complimented the Tiruchirappalli Local Centre for organizing the program in a professional manner. The theme of the National Convention was briefed by Er. R. Selvaraj, Convenor. Dr. N. Kumaresan, Chairman, Tiruchirappalli Local Centre, The Institution of Engineers (India) welcomed the gathering.

As part of the National Convention, Production Engineering Division Board of IET conferred Eminent Engineer Awards to leading engineers involved in manufacturing / production. For the year 2019, the recipients of the award were Er. A.S. Lamba, Whole Time Director and Group Chief Executive, L&T-MHPS Boilers Private Limited, Faridabad and Dr. A. Noorul Haq, Visiting Professor, Dept. of Production Engineering, National Institute of Technology, Tiruchirappalli. The awards were presented to the recipients by Dr. T. M. Gunaraja, President, IET.

Additionally, Production Engineering Division Board, IET selected two engineers below 35 years of age to encourage the upcoming talents on a PAN India basis and conferred Young Engineers award. For the year 2019, the recipients of the award were Dr. K. Jayakrishna, Associate Professor, Department of Mechanical Engineering, Vellore Institute of Technology (VIT) University, Vellore and Dr. Ankur Gupta, Faculty, School of Mechanical Sciences, Indian Institute of Technology, Bhubaneswar. The awards were presented to the recipients by Er. S.K. Banerjee, Former President, IET. Er. A. Anand, Hon. Secretary, Tiruchirappalli Local Centre, proposed the vote of thanks.

BHEL-Tiruchirappalli, National Institute of Technology-Tiruchirappalli, Anna University-Tiruchirappalli have collaborated in this event. This event has been sponsored by leading organizations say TNPL and L&T-MHPS Boilers Private Limited. More than 100 delegates from all over India representing various industries and educational institutions have participated in this event. As part of this event, F. W. Taylorv Memorial Lecture and G. C. Sen Memorial Lectures have been delivered by Mr. A. Pari, Director, CRP (India) Private Limited, Chennai and Dr. L. Karunamoorthy, Chairman of Faculty of Mechanical Engineering, Anna University, Chennai. More than 30 papers have been presented in this two-day conference.

NIT Tiruchirappalli as the Coordinating Institute for the Central Seat Allocation Board-2019

National Institute of Technology, Tiruchirappalli is chosen as the coordinating institute for CSAB-2019 (Central Seat Allocation Board-2019) by the Ministry of Human Resource Development. This year NIT-Tiruchirappalli has organized the CSAB-2019 for the students who have cleared JEE Mains.

The Joint Seat Allocation Authority (JoSAA) 2019 managed and regulated the joint seat allocation for admissions to 107 institutes for the academic year 2019-20. This included 23 IITs, 31 NITs, 25 IIITs and 28 Other-Government Funded Technical Institutes (Other-GFTIs). Indian Institutes of Technology [IITs] offered admission to several under graduate academic programs based on JEE (Advanced) 2019. NITs, IIITs, Indian Institute of Engineering Science and Technology, Shibpur [IIEST] and Other-GFTIs (NIT + System) offered admission to under graduate academic programs based on JEE (Main) 2019. Admission to all the undergraduate academic programs offered by these Institutes had been made through a single platform and coordinated by JoSAA and CSAB for 7 rounds. CSAB also took care of (i) special round for NITs, IIITs and Other-GFTIs

(after 7 rounds) (ii) CSAB-NEUT Counselling; (iii) CSAB – Supernumerary Counselling and (iv) CSAB – Self Financed Technical Institutes (SFTIs) Counselling.

Dr. Mini Shaji Thomas, Director, NIT, Tiruchirappalli was the Chairperson of CSAB- 2019 and the Co-chairperson of JoSAA 2019. IIT Roorkee was the coordinating Institute for JoSAA 2019. Dr. S. T. Ramesh, Professor, Department of Civil Engineering and Dr. G. Subbaiyan, Professor, Department of Architecture were the Coordinators, CSAB-2019.

An exclusive office CSAB-2019 with a help centre was set up at NIT Tiruchirappalli to guide the students for the effective participation in the counseling process. As per the directions from MHRD, the reservations were provided to Economically Weaker Sections (EWSs) for admission in Central Educational Institutions from the academic year 2019- 2020 onwards and Supernumerary seats were created and offered to female candidates for improving the gender balance in the undergraduate programs of all IITs and NITs in Joint Seat Allocation 2019.



NIT Tiruchirappalli Director elected as the Vice President of Shastri Indo-Canadian Institute

Prof. Mini Shaji Thomas, Director, NIT Tiruchirappalli has been elected as the Vice President this year and as the President of the Shastri Indo-Canadian Institute (SICI) for the following year in the Annual India members Council meeting held on 30th April 2019.

The initiatives of SICI support the creation of bi-national link between India and Canada in academia, Government, business community and civil society organizations by funding researches and hosting seminars. The internship and fellowship programmes of the Institute provide opportunities for individuals to gain first-hand experience in India or Canada. In addition, the library programme provides valuable resources to students and faculty in the member institutions.

The Shastri Indo-Canadian Institute became bi-national in 2005. It has the honour of being the only institution that has one hundred and ten premier academic institutions as its members in India (including IITs, IIMs, NITs, Law schools, Central and State Universities) and thirty-four universities in Canada (including McGill, Queen's and York Universities). The Institute's scope has expanded as well to include law, management, arts, information science, environment, science and technology including biotechnology in addition to humanities and social sciences. The Shastri Institute is funded and partnered with government bodies both in India and Canada.

The aim is to develop and extend the bi-national ethos through different programmes facilitating scholarly research and exchanges between the Indian and Canadian Universities, Cultural organizations, Government Bodies and United Nations Millennium Development Goals.

It is an honour for NIT-Tiruchirappalli to have its Director in the board of SICI as its Vice-President.



Director of the Shastri Indo-Canadian Institute on bi-national link

As a part of encouraging international research, Dr Prachi Kaul, Director of the Shastri Indo-Canadian Institute, New Delhi addressed an informative session on the opportunities of Shastri Indo-Canadian scheme. In the hour-long talk, Dr Kaul extrapolated on the myriad of facilities that students pursuing their undergraduate, graduate and doctoral studies can avail through the Indo-Canadian bi-national link. She mentioned that Faculty and Student Mobility programme funded by the Government of India is a new addition to this list. Opportunities to pursue collaborative research with partnered Canadian universities and other options for Faculties were also elucidated in the session.

Followed by a Question and Answer discussion, Dr Kaul cleared multiple doubts on the subject of the fellowships provided by the institute. S.Raman Sankaranarayanan, Dean (Institute Development (ID) & Alumni Relations

(AR)) and Dr. D.Ezhilarasi, Associate Dean IR thanked Dr Kaul for dedicating her valuable time in expanding the awareness of the resources available for collaboration with renowned Canadian institutes.



MoU between NIT, Tiruchirappalli and Tamil Nadu National Law University (TNNLU), Tiruchirappalli

National Institute of Technology, Tiruchirappalli (NITT) and Tamil Nadu National Law University (TNNLU), Tiruchirappalli agreed to build cooperation by signing Memorandum of Understanding (MoU). The MoU signing took place at Director's office at NIT-T on 16th August 2019. The MoU was signed by Prof. Mini Shaji Thomas, Director NITT, and Prof. Kamala Sankaran, Vice-Chancellor, TNNLU.

The MoU is a form of mutual commitment in complimenting each other's expertise to promote interdisciplinary research. The scope of this MoU is to exchange of ideas leading to update of curriculum, student and faculty exchanges, sharing of library resources and mutually beneficial academic interactions. The faculty members of TNNLU have wide-ranging expertise in



the drafting of agreements, Intellectual Property Rights, patent search and basic legal right for students etc. As a part of this MoU, it is agreed to provide expert lectures for an open elective course on Intellectual Property Rights, which is offered to all UG branches of NIT-T. Further legal advice to the student start-ups and support for patentability evaluation process could be extended by TNNLU through this MoU. Also, joint national and international conferences and workshops could be organised in areas of mutual interest. The office of Research and Consultancy (R&C) took the initiative for signing this MoU and the activities undertaken through this MoU will be monitored by a committee through the R&C office, which will meet time to time to bring out a fruitful collaboration.



NIT Tiruchirappalli Signed MoU with Central Depository Services Limited (CDSL)



National Academic Depository (NAD) is a national system set up by Ministry of Human Resources Development and University Grants Commission. They have appointed NSDL Database Management Limited (NDML) and Central Depository Services Limited (CDSL) Ventures Ltd., to facilitate academic institutions to digitally, securely and quickly issue online academic awards to the students directly in their online NAD Account. The students can access the certificate any time and authorize employers and banks to view and verify the certificates.

National Institute of Technology, Tiruchirappalli has signed a service level agreement in this system with CDSL on 26th June 2019. The purpose of this system is to bring in a wide range of benefits to students and employers/verifiers with enhanced transparency, reduction in costs and better service standards. Above all, this system mitigates reputation risk by eliminating fake/forged certificates. CDSL Ventures Limited (CVL) is a wholly owned subsidiary of CDSL, a leading securities depository in the country. CVL derives its confidence from its team, which has 'Securities Market Domain Expertise'. CVL has in place stringent policies and systems to ensure confidentiality of data. Strong electronic and physical security measures are also in place to ensure the security of confidential data.

In addition to the securities market, CVL also makes available the services of academic depository to all academic institutions via CVL National Academic Depository (CVL NAD). CVL NAD is a system of creating and holding award details in electronic form and making them available for verification to employers and those academic institutions who are offering higher studies.



MAMCET Signs MoU with Siemens Centre of Excellence in Manufacturing, NIT-Tiruchirappalli

M.A.M College of Engineering and Technology, Tiruchirappalli has signed an MoU with the Siemens Centre of Excellence in Manufacturing, National Institute of Technology, Tiruchirappalli. The Siemens CoE, an interdisciplinary, industry-backed Centre focuses on Skill Excellence for engineering graduates through its multidisciplinary state-of-the-art Laboratories. Dr. Mini Shaji Thomas, Director, NIT Tiruchirappalli, Dr. M. A. Maluk Mohamed, Director and Correspondent and Mrs. Fathima Bathool Maluk, CEO, MAMCET, Trichy signed the MoU. The MoU aims to strengthen cooperation between Siemens Centre and MAMCET in offering skill development courses, faculty supporting projects and internships.

Dr. Mini Shaji Thomas, Director, NIT Tiruchirappalli said that improving the skills of engineering graduate students and enhancing their employability skills is a great challenge in the present industrial scenario. Siemens Centre creates the right platform in training them on technologies demanded by Industries.

Dr. M. Duraiselvam, Head, Siemens Centre, Dr. M. Umapathy, Dean (R&C), NIT-T, Dr. S. Rajasekeran, Dean (Admin), MAMCET and Dr. B. Annette, Dean (MSDI), MAMCET were present during the ceremony.



The Siemens Centre is reaching out to nearby Institutes and Industries to develop an effective educational ecosystem.

Training the trainers on 21st Century Skills Education

A Three-day training Programme on “Training the Trainers on 21st Century Skills Education” has been organized by Dr. S. Mekala and Dr. N. Thamaraiselvan from 8th May 2019 to 10th May 2019 at National Institute of Technology - Tiruchirappalli for the faculty members from Polytechnic Colleges. The programme has been sponsored by IMPRESS -ICSSR.

The inauguration ceremony was conducted on 8th May 2019 in the presence of the programme coordinators and Dr. R. Joseph Ponniah, Head, Department of Humanities and Social Sciences, NIT-Tiruchirappalli. Dr. S. Mekala, Programme Coordinator welcomed the gathering and briefed the objectives of the three-day training programme that equips the polytechnic teachers to be competent in facing the challenges of the dynamic learning environment. Further, she insisted that 21st Century skills are a set of abilities that will equip the students’ social, personal, intellectual and emotional skills they need to develop in this information age.

Dr. N. Thamaraiselvan, Programme coordinator, briefed the participants about the programme. He introduced the contents of the programme such as skill-based learning, achievement motivation, emotional resilience, and digital learning to the participants. The eminent academicians shared their expertise on the 21st Century Skills Education to empower the participants with their knowledge on soft skills, emotional resilience, personality development, achievement motivation, digital learning, creativity and problem solving. Further, the participants were motivated and equipped to be the assertive and resourceful individuals in the academic and career prospects.



The participants shared their feedback about the programme. They affirmed that the resource persons facilitated an impact on their teaching methodologies and inspired them to implement positive changes in their classroom. They appreciated the coordinators for their diligence in organising this programme and asserted that this programme was ingenious.

Dr. R. Joseph Ponniah delivered the keynote address and elaborated on the necessity of communication skills and thinking skills in acquiring a language. Ms. Geetha R, Research Scholar, NIT-Tiruchirappalli proposed the vote of thanks and expressed her profound gratitude to the Director, NIT-Tiruchirappalli, and the programme coordinators for their guidance and support. She also thanked the experts who have accepted to share their valuable insights in this programme. Further, she thanked the participants for making this three-day training programme, a successful endeavor with their presence.



Convocation- Through the Years

First Convocation

Chief Guest: Dr.M.S.Ananth, Former Director, IIT Madras
Prof PS Manisundaram was awarded honorary doctorate.
Students passed out in 2004 and 2005 were awarded degree.

Second Convocation

Chief Guest: Shri. N. Kumar, Vice-Chairman, Sanmar Groups
Key message of Chief Guest

India is on a winning path. This is led very clearly by the services industry. Agriculture, which was the main stay of India, is now only 20% of the GDP and will go down. The services sector continues to grow. However, the services sector is not only the IT or the ITES industry that has been talked about but also includes the financial sector and a number of other sectors. The third and I believe the most important part which will take India to the double-digit growth in the future is MANUFACTURING.

Third Convocation

Chief Guest: Former President His Excellency Dr. A. P. J. Abdul Kalam
Key message of Chief Guest

When I am with you students and faculty of NITT, I was thinking what is the important problem, which I can discuss with you. According to me, water is becoming an important resource which needs focused attention. We constantly pass through a cycle of flood, drought and water shortage conditions. How do get out of this three dimensional vicious circle. I have suggested in Parliament and State Assemblies, as the President of India that “Interlinking of Rivers” is very vital. The Primary task of each states should to connect the river basins within the states, without waiting for the national interlinking of rivers.

Fourth Convocation

Chief Guest: Shri. L. Ganesh, Chairman, Rane Group
Key message of Chief Guest

Fortunately for you, today human capital is at a premium compared to physical and financial capital . You are in the midst of tremendous opportunities. Enterprise world over do not lack money or raw materials but all of them complain of a lack of right human capital for human capital alone stands between successes and failure of enterprises. Here’s your chance . Go make the most of it.

Fifth Convocation

Chief Guest: Shri. M. A. Alagappan, Executive Chairman, Murugappa Group
Key message of Chief Guest

As you step out into the world, You will be faced with numerous challenges that will test your knowledge and skills in order to make you a better and more capable person in life. Indeed the economic events that unfolded last year have given us a lot of lessons with regard to economic values, innovations and responsibilities and on this day I would like to talk about these learnings like Conservatism versus Speculation, Innovation and Social Responsibility



History of Convocation





Sixth Convocation

Chief Guest: Sri. Karumuttu T. Kannan, Managing Director, Thiagaraja Mill Ltd., Madurai

Key message of Chief Guest

The world of technology is going through a once in a generation transformation. As graduating engineers from a premier technical institution such as National Institute of Technology, Trichy, you have a major role to play in the ongoing transformation. In order to be a part of that, you need to be aware of the desired attributes of an Engineer as perceived by renowned industries and world class technical institutions. Some of them are: Good understanding of Engineering and Science fundamentals, A multidisciplinary approach, Appreciation of the context in which Engineering is practiced - economics, environment, social & customer needs, Synthesizing engineering, business and social perspective, Ability to work effectively in a diverse and multinational environment, Ability to think critically, creatively and collaboratively, Possessing strong work ethics, Innovation and Entrepreneurship.

Seventh Convocation

Chief Guest: Dr. V. K. Saraswat, Director General, DRDO Scientific Advisor to Defence Minister, Secretary, DR & DS

Key message of Chief Guest

You are graduating at the time when our nation is surging forward in all fields. You are empowered by knowledge, and now have to fortify it with your personal qualities like honesty, hard work, sincerity and integrity and to top in all- with a sense of pride to serve the nation. I am quite confident that you will have the most rewarding experience in the years to come. Budding engineers can take up the challenges in Aviation technologies, Hypersonic flight vehicle technologies, Missile Technologies, Multiple Independently Targeted Re-entry vehicles technologies, Counter Defence Technologies, Boost Phase Intercept, Hit to kill Technologies, Cruise Missile Defence, Satellite Neutralisation, Directed Energy Weapons, Cruise Missile Technologies, Space Security, Cyber Security and deliver the required technologies through focused research.

Eighth Convocation

Chief Guest :Mr. B. Prasada Rao Chairman & Managing Director ,BHEL.

Key message of Chief Guest

Issues like intellectual Property Rights(IPR), adhering to a time schedule, objective oriented approach of problem solving, efficient management of resources and monitoring at a regular interval are the areas, where differences in opinion or approach may still occur. The country needs good technocrats who have a global vision, who are focused and have the courage to take risks and are willing to work for a larger purpose in life. I am sure this great institution, National Institute of Technology at Tiruchirappalli has prepared you well for maintaining a positive attitude to change. I believe that it is the 'people factor' which would re-write the destiny of India.

Ninth Convocation

Chief Guest : Dr. R. Chidambram, Principal Scientific Adviser to the GOI & Chairman, Scientific Advisory Committee to the cabinet (former chairman, Atomic Energy commission)

Key message of Chief Guest

There is an urgent need to enhance academia-industry interaction. In this context, I must mention that there is a basic difference at present between 'developing' and already- 'developed' countries. Thermodynamic equilibrium exists between knowledge to come out in the Academic System & Knowledge created in or transferred to Industry in the already Developed Countries. So Industry there is waiting for new knowledge that is developing in the Academic System and provides R&D support for such development. There is lack of such equilibrium in India at present, except in Nuclear, Space, some areas of Defence Research & Knowledge Chemicals, etc. So, as I often say, India's technology needs range from nuclear to rural.



Tenth Convocation

Chief Guest: Dr. Avinash Chander (Padma Shree), Secretary, Department Of Defence R&D Director General Drdo & Scientific Advisor To Raksha Mantri

Key message of Chief Guest

Universities/Institutions are the hub of dynamic and creative young minds. When synergized with experienced faculty it should act as a seeding and breeding ground for new and innovative ideas and technologies, thereby, leading to advancement of science and development of home grown technologies. I would appeal to the faculty to lay emphasis on research in specific goal oriented areas, which are in tune with the nation's needs and sometimes specific to the region. One need not be enamored of undertaking only blue-sky research but also take up low tech R&D leading to products required in high volume. Bringing research around to a more commercial way of thinking is not the only issue that academia must face. Another cultural problem according to our scientists is that too often institutions have an ethos of playing safe. Researchers who devise and test daring theories are criticized if they fail, discouraging the kind of path-breaking research that India needs. The responsibility lies with the senior faculty to ignite and nurture the fertile creative minds so that the time taken from mind-to-market gets reduced.

Eleventh Convocation

Chief Guest: Shri. R. Chandrasekaran, Executive Vice Chairman, Cognizant Technology Solutions.

Key message of Chief Guest

The world today is a very exciting place. India, especially, is the land of opportunities- where, more than ever before, bright, curious minds are being welcomed, encouraged and helped along- be it in large corporates or startups. There has never been a better time to get started. Lessons for life are Dream Big, Don't fear to failure, Define your own success, Be involved with the community, Respect people, Take charge of yourself.

Twelfth Convocation

Chief Guest: Prof. Uday B. Desai, Director ,IIT Hydrabad.

Key message of Chief Guest

The question before all of us, and more so before you, as you step into a different life is : How do we make India a net contributor of technology – we, of course, consume technology developed elsewhere but we , of course, consume technology developed elsewhere but we should also contribute in a great measure, so that in the overall analysis there is a positive outflow technology. Here I believe, innovations will be the key- it will also be the key to fulfill the design and make in India Mission of our Prime Minister. What does it take to be innovative- not a whole lot- here are a few ingredients: A Curious and questioning mind, Fertile Imagination, Day dreaming, Sprit of Why Not, outlandish ideas, Perseverance, withstanding failures- for every successful innovation there are perhaps more than 10 failures, a bit of luck: need to be at the right place, at the right time, asking the right questions.

Thirteenth Convocation

Chief Guest: Padma Vibhushan Shri. N. R. Narayana Murthy, Founder INFOSYS

Key message of Chief Guest

Please remember that it is your parents, your family and your teachers who have contributed selflessly to your success. Show them your gratitude. Remember that gratitude is the first attribute of a good professional. The county has huge challenges- basic education, healthcare, nutrition and shelter for the 700 million poor people in this country.



Fourteenth Convocation

Chief Guest: Prof. Anil D Sahasrabudhe ,Chariman ,AICTE
Key message of Chief Guest

For Engineering education to evolve we need to devise a strategy for enhancing quality. Most importantly we need to build strong and world-class graduate schools in engineering leading to research, masters and PhDs. Mere accumulation of basic knowledge is of limited practical use. unless it is translated into innovations, providing economic or social value. It is transfer of knowledge for economic growth that has revolutionized this world. If you are prepared to think big and act in time with conviction, you will be rewarded. You should hold on your goals even if you stumble here and there, and learn your lessons.

Fifteenth Convocation

Chief Guest: Prof. Subra Suresh president & Distinguished University Professor, Nanyang Technological University, Singapore.
Key message of Chief Guest

The unique convergence of the digital, physical and biological worlds has created technological advances that are expected to transform the daily lives of ordinary citizens around the globe at an unprecedented and ever-accelerating pace. This convergence, according to many thought leaders and global thinkers, had ushered in a new era, now commonly referred to as the Fourth Industrial Revolution or Industry 4.0.



Computational Intelligence for Multimedia

The Faculty Development Programme on Computational Intelligence for Multimedia sponsored by the AICTE-Margdarshan Scheme was held at NIT, Tiruchirappalli from May 13th to May 17th, 2019. Computational Intelligence for Multimedia is an active research area as multimedia remains the most powerful and much sought after medium of communication. This course covered state-of-the-art research challenges, outlined and executed methodologies for a secure and scalable Computational Intelligence technique for Multimedia information. This course also provided an ideal forum to examine unique research ideas using Computational Intelligence for solving research challenges in Multimedia. A total of 56 participants registered for this workshop. Among them, 20 participants were from Mentee institutions and 21 participants were from Non-Mentee institutions. The workshop started with the inaugural function and the HOD, Dept. of CSE, presided over the function. The workshop agenda had total of 20 sessions of technical presentations with wide coverage of areas like Multimedia computing and Intelligence, Machine learning Techniques, Deep learning for Multimedia, Text analytics, Sentiment analysis, Data



Analytics using R Programming and Recommendation systems. The technical presentations were covered by Dr. M. Brindha, Dr. M. Sridevi, Dr. E. Sivasankar, Assistant professors, CSE Department, National Institute of Technology, Tiruchirappalli and Dr. T. Mirnalinee, Professor, Department of CSE, SSN College of Engineering, Chennai. The workshop ended successfully with the valedictory function followed by the certificate distribution.

Multiple Avenues of Incentives for Solar PV Installations

The Department of Electrical and Electronics Engineering of National Institute of Technology- Tiruchirappalli organised a workshop on 'Solar Photovoltaic System Design and MPPT Implementation' from 15th to 19th of May 2019. The objective of the workshop was to introduce the basics of solar photovoltaics, effect of temperature, irradiation and the impact of partial shading conditions on the extracted power and methods of extracting maximum available power under any environmental conditions.

Shri Birinchi Bora, Senior Research Scientist, National Institute of Solar Energy (NISE) Gurgaon was the expert resource person for the programme. He is in-charge of Photovoltaic module testing facility and responsible for testing and certification of PV module as per IEC and BIS testing procedure. He delivered lectures on "degradation and reliability of different PV module technologies". He also stressed upon the need for more vigorous engagement of academia and industry to utilize the plethora of attractive schemes and subsidies for PV installations offered by various state and central government agencies. He discussed about the different failure modes in PV systems and the impact on reliability of the system.

The five-day workshop was an unique course involving both theory and practical sessions on the state-of-the-art theme of solar PV system design and MPPT implementation. The focus was on disseminating the knowledge and skills in the domain with opportunities for hands on designing and testing of PV systems. M/s Texas Instruments, Bengaluru was the chief sponsor for the workshop, contributing Digital controller boards. Other sponsors include M/s PC Process Pvt. Ltd, M/s key sight Technologies, M/s Chipkraft, M/s Globetek, Bengaluru, M/s LEM, M/s FLUKE and M/s Elmack Engg. Services.

The session on the first day comprised the mathematical modelling of PV cell, interpretation of datasheet of a PV module, effect of temperature and insolation on electrical characteristics, various interconnection schemes for PV systems and the need for MPPT controller including the modelling of PV cells using MATLAB/Simulink. On the second day, hotspot formation in PV cells, effect of bypass diodes and multiple peaks in PV characteristics, Optimization algorithms, and Implementation of P&O algorithm in MAT lab were the topics. The Design of sensor circuitry for MPPT implementation, design of boost converter for PV application, selection of power electronics switches for boost converter, selection of heat



electronics switches for boost converter, selection of heat sink, PCB schematic and layout design of power circuit using KICAD software were covered. The reconfiguration of PV arrays for maximum power extraction under partial shading condition, introduction to programming using MSP430 microcontroller, implementation of P&O using MSP430 microcontroller, testing of P&O algorithm were handled on the third and the fourth day of the workshop. The kits of digital controller boards were distributed to all the participants, courtesy M/s. Texas Instruments, Bengaluru. Dr. G. Saravana Ilango, was the principal resource person for the workshop while his team of scholars facilitated an excellent conduct of the laboratory sessions.

The workshop was well-received as an indication of the growing interest on the topic of solar photovoltaics. Further, based on the feedback from the participants,

it is proposed to conduct the workshop again on the same topic, incorporating the future developments. This workshop enlightened the participants with new paradigms and findings, practical findings, practical challenges encountered and possible solutions for the challenges faced in solar photovoltaic systems.



Short Term Course on Numerical Analysis using MATLAB

The Department of Mathematics has organized a short-term course on Numerical Analysis using MATLAB during May 15 - 19, 2019 with an objective to familiarize various numerical algorithms for the numerical simulation of natural processes arising in science and engineering. This course also covered a brief introduction session on MATLAB and sufficient lab sessions for implementation of these algorithms in MATLAB. Faculty members from NIT-T, IIST Trivandrum, NIT Surathkal, and Anna University have delivered lectures on various topics of



numerical analysis and MATLAB. Professor Umopathy, Dean (R&C) inaugurated the program and fifty-four people have participated and benefitted out of this course.

Short Term Course on Speech and Language Processing

The Department of Computer Applications organized a short-term course on Speech and Language Processing from 27th to 31st May 2019 with a schedule of topics covering from the basics of Speech and Language Processing to recent Machine learning and Deep learning for the domain along with usage of tools including CMUSpinix, NLTK and Spacy.

The sessions were handled by resource persons from various industries including Reliance Jio, HCL, C-DAC and Honeywell as well as academic institutes including NIT Jamshedpur and VIT along with the coordinators, Dr. S. R. Balasundaram and Dr. S. Sangeetha.



The effectively planned sessions introduced the topics including industrial applications of Speech and Language processing, Speech processing algorithms, Speech processing Tools, Python for Text and audio processing, Artificial Intelligence then and now, Machine learning and Deep learning for Language processing to the participants. Demonstration of Language Processing concepts using

open source packages and Information extraction tool was also done.

Hands-on sessions were also held to enrich the participants with practical application on the theme of the course. The course ended with the distribution of certificates to the participants.



Recent Trends in Geotechnical Engineering

A workshop on 'Recent Trends in Geotechnical Engineering 2019' was organized by the Department of Civil Engineering, NIT Tiruchirappalli on 7th and 8th June 2019 in association with Indian Geotechnical Society, Trichy Chapter. The coordinators of the workshop were Dr. K. Muthukkumaran, Dr. S. Jayalekshmi, Dr. Deendayal and Dr. Jeevan Joseph. Advancements related to the topics like, Ground Improvement Techniques, Earthquake Geotechnical engineering, Soil-Structure Interaction, Liquefaction Hazard Management, Case Studies in Geotechnical Engineering, Reliability Analysis in Geotechnical Engineering and Marine Foundations were delivered. The resource persons, Prof. G. L. Sivakumar Babu, IISC- Bangalore; Pro. A. Boominathan, IIT- Madras; Prof. Mahendra Singh, IIT-Roorkee; Prof. J.T. Shahu, IIT-Delhi; Prof. K. Muthukkumaran, NIT-Tiruchirappalli; Prof. H. N. Ramesh, Bangalore University; Dr. R. Ayothiraman, IIT-Delhi; Dr. Subhadeep Banerjee, IIT-Madras; Dr. Neelima Satyam, IIT-Indore; Dr. Sarath Kumar Das, IIT (IS)- Dhanbad; Mr. Ravi Sundaram, CENGRs Geotech, Delhi; Dr. C. R. Parthasarathy, Sarathy Geotech, Bangalore; Prof. C. N. V. Satyanarayana Reddy, Andhra University-Vishakapatnam, and Dr. Anil Joseph, Geostructurals, Cochin shared their expertise in the programme.

Five new student chapters were inaugurated under the mentorship of IGS, Trichy say, Chapters at K. S. Rangasamy College of Technology, Tiruchengode, K. Ramakrishnan College of Technology, Tiruchirappalli, CK College of Engineering and Technology, Cuddalore, Periyar Maniammai Institute of Science and Technology, Vallam, Thanjavur and Saranathan College of Engineering, Tiruchirappalli. The certificates were issued in a special session attended by Prof. G.L. Sivakumar Babu, President, IGS, New Delhi and Dr. K. Muthukkumaran, Chairman of IGS, Trichy Chapter. The vote of thanks was proposed by Dr. S. Jayalekshmi, Associate Professor, NIT-Tiruchirappalli.



CAD based modelling of Optical Fibers and Photonic Devices for Communication, Sensing, and Industrial Applications

A 5-day short term course on "CAD based modelling of Optical Fibers and Photonic Devices for Communication, Sensing and Industrial Applications" was organized by the Department of Electronics and Communication Engineering, NIT Tiruchirappalli. It was held from 10th to 14th June 2019. The objective of this course was to expose the participants to learn the theory and modeling of optical fibers and photonic devices for communication, sensing and industrial applications using optical CAD tools. Potential applications and demand for compact portable optical fiber and photonic waveguide-based devices with high reliability and stable power handling capacity is steadily increasing in recent years. Dr. G.Thavasi Raja, coordinator of the programme briefed on the introduction of Fiber Optics and elaborated Light ray Propagation Characteristics through optical fiber.



He also introduced the specialty fiber and its biosensing applications and industrial applications. Dr. D. Sriram Kumar, coordinator of the programme introduced the Optical Wireless Communication and its application area of free space optics. Research scholars were engaged with the working principle of photonic crystal fiber and application of biosensors, plasmonic waveguides and filter, theory of optical waveguide and photonic integrated circuits & ring resonator Dr. R. Vasantha Jayakantha Raja from Sastra University, delivered a lecture on the basics of nonlinear fiber optics with application of sensing and super continuum generation.

Necessity of Calibration for Research and Industry Sector

The Department of Energy and Environment (DEE), at NIT Tiruchirappalli established calibration laboratory for providing calibration services for temperature, electrical and pressure parameters. The laboratory has been accredited with NABL (ISO 17025:2005) certification. The one-day workshop on “Necessity of Calibration for Research and Industry Sector” was held on 25th June, 2019 to explore the possibilities for better utilization of calibration facilities.

Research scholars and faculty members from various institutes and delegates from small scale industries

He also discussed MATLAB programming for dispersion, soliton generation, NLSE and SC generation. Dr. N. Gunavathi, coordinator of the programme briefed on the basics of optical antenna and optical antenna design using HFSS/CST. Further, extended hands-on laboratory session is offered to the participants on conventional fiber and photonic crystal fiber design using COMSOL Multiphysics, Fiber Optics System Design by Optimum and demonstration of Optical Spectrum Analyzer by Anritsu India Pvt. Ltd. The Resource persons were from NIT Tiruchirappalli, Sastra University and Industry.

participated in this workshop. Mr. S. S. Ananthan (NABL accredited auditors) was invited as guest speaker and he delivered a lecture on the importance of NABL accreditation and gave an overview on the calibration procedures under the guidelines of ISO/IEC 17025:2008. Dr. M. Premalatha delivered a lecture on the “Experimental error and uncertainty analysis”, covering the factors involved in measurement uncertainty and stepwise procedures for calculating the uncertainty. Followed by the laboratory visits, hands-on training of Pressure, Temperature and Electrical calibration was given to the participants.

Workshop on Bioenergy, Biofuels and Biorefining

The Department of Chemical Engineering, NIT Tiruchirappalli organized a one-week self-supported workshop on Bioenergy, Biofuels and Biorefining from June 10-15, 2019. The workshop was coordinated by Dr. K. Muthukumar, Dr. A. Arunagiri and Dr. N. Samsudeen. It was inaugurated by Prof. Meera K Sherifa Begum, Head, and Department of Chemical Engineering, NIT Tiruchirappalli. This programme was attended by 24 participants, which included faculty members and research scholars from Chemical Engineering, Mechanical Engineering and Science streams from Institutions located across India. The workshop dealt with the topics on biomass pretreatment, algal cultivation, pyrolysis, aromatics production from biomass, microbial fuel cell, biodiesel production and its engine performance, and biogas production. Importantly, the participants were exposed to current research works and future improvements and prospects in the bioenergy area. The lectures were delivered by the experts from NIT Tiruchirappalli, IIT Madras, Bharathidasan University, Anna University, VIT Vellore and SASTRA. The participants visited the laboratory facilities available in the Department of Chemical Engineering



and Energy & Environment. The coordinators gratefully acknowledged the financial support from High Energy Batteries, Tiruchirappalli and BVN Instruments Coimbatore for the successful conduct of this workshop. Finally, the one-week workshop concluded with a happy note and positive feedback from the participants.

MBA Orientation Program



The Department of Management Studies, National Institute of Technology, Tiruchirappalli welcomed the new batch of 2019-2021 on 22nd July, 2019. The inauguration of this academic year marked the start of a week filled with activities and workshops to induct the new batch.

The inauguration was graced by Prof. Dr. Mini Shaji Thomas, Director, NIT Tiruchirappalli and had Mr. Rashmiranjan Mohapatra, Managing Director, Kemppli

India and Prof. Dr. Rajendran C, Professor, DoMS, IIT Madras as the chief guests. The event started on an auspicious note with the lighting of the lamp followed by the welcome address by the Head of the Department, Dr. P. Sridevi. The presidential address was delivered by the Director of NIT Tiruchirappalli, Dr. Mini Shaji Thomas who encouraged the students to take advantage of all the available opportunities at NIT Tiruchirappalli. The first and second year students were enlightened with thought provoking speeches by the guests that set the tone for their illustrious time at the Department of Management Studies and taught them on how to equip themselves to step into the corporate world and achieve their full potential.



Distinguished Guest Lecture on Technology in Space Science



The IEEE Student Branch of NIT-Tiruchirappalli conducted a distinguished guest lecture on Technology in Space Science. The lecture was delivered by Dr. Surendra Pal, Chairman, GAGAN PMB ISRO, Bangalore. Dr. S. Pal gave a glimpse of his working with Dr. APJ Abdul Kalam and Dr. Vikram Sarabhai from his time at ISRO. Dr. S. Pal also narrated his journey in to space science and his current position as the head of GAGAN, a navigation satellite owned by India, which is more accurate than the GPS. Dr. S. Pal also inspired students and faculty on the recent trends in space research and motivated the students to take up more active roles in Indian space technology. The event was conducted in association with IEEE MTT-S chapter and AP-S chapter of NIT – Tiruchirappalli.

Distinguished Lecture on Antennas for Defense Applications

The IEEE Student Branch of NIT-Tiruchirappalli organized a distinguished lecture programme on “Antennas for Defense Applications” by Dr. D. C. Pande on 8th August 2019. Dr. D. C. Pande spoke from his vast experience during his time with DRDO, Bangalore. Dr. D. C. Pande spoke to the audience about the growth of Antennas and RADAR applications in Indian Space and Defense Applications. He also shared some pictures of the sophisticated RADAR technologies being used by the Indian government for communication and defense purposes. The talk motivated many students to take up Antennas and RADARs as a research topic in their final year projects.



Orientation Programme by IEEE Student Branch



The IEEE Student Branch of NIT-Tiruchirappalli conducted an orientation programme for the First year undergraduate students of the Departments of Electrical and Electronics Engineering, and Electronics and Communication Engineering. Dr. N. Kumaresan, Professor, Dept. of EEE introduced the IEEE student branch and spoke about the benefits of being an IEEE member to the budding engineering students on 13th August 2019. Similarly, Dr. M. Bhaskar, Professor, Dep. of ECE, addressed the first year students of the Dept. of ECE, and gave a brief introduction about the member benefits. The students were motivated and encouraged to be part of the IEEE community and to strive hard in making a difference in the world.

Special Guest Lecture on RESEARCH – NOT A NIGHTMARE!

The IEEE Student Branch of NIT-Tiruchirappalli conducted a special guest lecture on Research – Not a Nightmare. The lecture was delivered by Dr. D. Sriram Kumar, Professor, Dept. of ECE. The lecture was intended to address the research scholars who are in their initial stages of their research works, and to encourage, motivate the researchers towards successful completion of their research. Dr. D. Sriram Kumar spoke about his experiences as a researcher and the changes that has taken place since his completion up till now. Prof. Sriram Kumar's talk enriched the minds of the researchers as he made sure that the students understood the simplicity and intricacies of the research work.



Machine Modelling using MATLAB



The IEEE Student Branch of NIT-Tiruchirappalli conducted a 2-day machine modelling workshop using MATLAB. The workshop was conducted on 6th and 13th August 2019. The resource person for the workshop was Dr. P. Raja, Associate Professor, Dept. of EEE, NIT – Tiruchirappalli. Notably, the workshop drew participants from industries such as Rane TRW, Tiruchirappalli, India. The event was a complete hands-on workshop as the participants were assisted by PG students while practicing the machine modelling in their own laptops.



Workshop on Application of Soft Computing Tools in Disaster Modelling



The inaugural function of five days workshop on Application of Soft Computing Tools in Disaster Modelling was held in the Department of Civil Engineering, NIT Tiruchirappalli on 29th July 2019. Dr. S. Moses Santhakumar, Professor, presided over and the inaugural address was given by Dr. G. Ravikumar, Professor, Center for water resources, Anna University. The program was sponsored by AICTE under the aegis of Margdarshan scheme. Dr. N. Sivakumar, Professor, ICE, NITT spoke about the Margdarshan scheme and the benefit of the faculty development programme for effective teaching-learning process. Earlier Dr. G. Swaminathan, Professor, welcomed the gathering. Dr. S. Saravanan, Assistant Professor, emphasized the need for the course and the topics covered include disaster management, application of soft computing tools, mitigation and planning, and preparedness of disasters. Dr. R. Manjula, Assistant Professor, proposed vote of thanks. Twenty-five faculty member from the engineering colleges were the beneficiary.

Workshop on Industrial Process Automation

The Department of Instrumentation and Control Engineering and the Department of Production Engineering, National Institute of Technology, Tiruchirappalli organized a Workshop on Industrial Process Automation (IPA) from 2nd to 8th August 2019 sponsored by All India Council for Technical Education (AICTE) under the Margdarshan Scheme. Dr N Sivakumaran, Professor and Coordinator welcomed the participants and mentioned that Industrial automation is the key for making process industries competitive. He added that except for a few operations, many processes and systems could be automated, which would help the companies to be cost-effective and energy-efficient. Dr S Kumanan, Professor (HAG) and Coordinator mentioned that there is a great scope for automation to increase Quality and Flexibility in Process industries using Supervisory Control and Data Acquisition System (SCADA), Distributed Control System (DCS) and Programmable logic controller (PLC).



Dr K. Srinivasan, Associate Professor and Coordinator highlighted the objective of the course i.e., to provide state of the art technologies in the field of Wireless, Internet of things (IoT) and Cloud computing, and expressed that this would enable to establish industry-institute interaction. The technical sessions were handled by the experts from Yokogawa India Limited, Gantner Instruments India Pvt. Ltd., Siemens Centre of Excellence (CoE) and by the faculty members from NIT-T. The Hands-on training in subjects on Cyber-Physical Systems, IoT, PLC, DCS as well as process test rigs were provided at Industrial Automation Laboratory, Department of Instrumentation and Control and Seimens centre of excellence (CoE).



The training included hands-on sessions in PLC, SCADA, DCS, Human Machine Interface (HMI), Highway Addressable Remote Transducer (HART)/ Fieldbus/ Profibus/ Wireless protocols for Industrial Automation, Cyber Security threats, Industrial IoT, Industrial 4.0 and Cloud-based architecture of Industrial Automation.

Simulation software-based training on design of classical and advanced controller design for linear/non-linear processes was also handled.

Ms R. Mahalakshmi, AGM, Yokogawa India Limited, Bangalore inaugurated the workshop and delivered the inaugural address emphasising the need for close interaction between Industry and Academia to solve the problems faced by the Industry. She thanked AICTE for initiating such industry-institute interaction trainings for faculty members to enhance the skill set and update their knowledge on industrial requirements. She stated that they had been using Supervisory Control and Data Acquisition (SCADA) Systems, Distributed Control Systems (DCS), Programmable Logic Controllers (PLC) and Remote Terminal Units (RTU) for Industrial Process Automation. The academic institutions can find out solutions to the problems with their strong foundation in Process Modelling, State Estimation, Advanced Control Algorithms, Optimization Techniques, Intelligent System Technologies and Signal Processing Algorithms. The industries can identify the problems, procure the necessary equipment and implement the solutions offered by academia in their plants. Prof M. Chidambaram, Visiting Professor, Dept. of Chemical Engineering, NIT Warangal and Former Director NIT, Tiruchirappalli delivered his valedictory address stressing the need for automation in the industrial sector and stated that automation in the past was used to increase productivity and to reduce the cost associated with human operators. However, today, the focus of automation has been shifted to increasing quality and flexibility in the manufacturing processes. He was overwhelmed to see many faculty members (from Mentee Institute and Non-mentee institutes) who were actively interacting with the experts and he felt that such corresponding initiatives would enhance extensive research in industrial requirements and promulgate R&D avenues in the field of Industrial Process Automation.



Microwave Engineering Revolutionizes the Medical Field

A one day workshop on Microwave Engineering was organized by the Department of Electronics and Communication Engineering, NIT-T on July 6th 2019.



Microwave engineering helps in miniaturization of the technologies. The latest research trend of Microwave engineering has turned towards frequency selective Surfaces (FSS) which is known as spatial filters. The application of FSS include defense especially in RADAR side, shielding from electro-magnetic fields, valuable medical applications, electro-magnetic reflectors, polarizers, war field jammers, etc.



Few Indian researchers like Dr. Shiv Narayanan, senior scientist of National Aeronautics Limited (NAL) Bangalore, Dr. D C Pande (Raja Ramanan distinguished scientist of DRDO/ LRDE) Bangalore, Dr. S. Raghavan, senior Professor, ECE, NIT Trichy and his research scholar K. Krishna Kanth are contributing towards application research and were the resource persons for the workshop. Delegates across south India were highly motivated to carry out research in this new field of practical importance. Dr. D. C Pande in his keynote address mentioned that FSS helps in miniaturization of RADOME and this helps a lot in defense Air crafts. Dr. Shiv Narayanan proudly mentioned that Indians are highly competent in FSS work.



Dr. S. Raghavan elaborated the applications of FSS in the medical field especially in shielding the therapeutic instruments like MRI, CT Scan. The senior research scholar K. Krishna Kanth whose works have been recognized worldwide is hopeful of earning four patents. His research works stand first in the country in terms of application point of view, said renowned scientists Dr. D C Pande and Dr. Shiv Narayanan.

Workshop on Geotextile Reinforced Sustainable Pavements

A five day workshop on Geotextile Reinforced Sustainable Pavements, which is sponsored by the Coir Board, Ministry of MSME, Government of India was organized by CETransE, the Centre of Excellence in Transportation Engineering during 8-12 July 2019. The workshop was meant to disseminate the knowledge acquired from the research project on “Performance Evaluation of Coir Geotextile Reinforced Rural Roads in TamilNadu” and also to promote the usage of Coir Geotextiles as a reinforcement material for pavements. The workshop was inaugurated by Dr. G. Venkattappa Rao, visiting Professor of IIT Gandhinagar and former Professor of IIT Delhi. Prof. M. Venkataraman, visiting Professor of IIT Gandhinagar, and President of Indian Chapter of IGS delivered the felicitation speech.

The inaugural ceremony was followed by the technical sessions of Dr. G. V. Rao and Prof. M. Venkataraman. Dr. G. V. Rao gave an introduction about geosynthetics and also discussed about the applications of the same in pavements. Prof. M. Venkataraman gave a brief idea about how geosynthetics can be used to reinforce soil structures. The lectures of the second day of the workshop were handled by Dr. K. Balan, Professor of Rajadhani Institute of Engineering and Technology and Dr. M. V. L. R Anjaneylu, Dean (P&D) and Professor of Civil Engineering at NIT Calicut. Dr. K. Balan delivered a lecture about the emerging trends in coir geotextiles and the design and execution of coir geotextile reinforced structures. Dr. M. V. L. R Anjaneylu discussed about the potentiality of coir geotextile for road construction and the performance of coir geotextile reinforced pavements. Dr. Samson Mathew started the third day of the workshop with a lecture on material characterisation of soil and aggregate. He also gave a glimpse into the works done in the ongoing research project on “Performance Evaluation of Coir Geotextile Reinforced Rural Roads in TamilNadu”. This was followed by the lectures of Mr. M. Sivakumar, Assistant



Professor of NIT Calicut and Dr. Sunitha V. Mr. M. Sivakumar focussed on bituminous mix design and bituminous road construction. Dr. Sunitha explained the design of the flexible pavement as per IRC 37 with a sample problem. The lectures of the fourth day were delivered by Dr. J. Karthikeyan, Dr. S. Moses Santhakumar and Suresha S. N., Associate Professor at NIT Suratkal. Dr. J. Karthikeyan delivered a lecture on material characterization of cement and concrete. Following this, Dr. Suresha S. N. delivered a lecture on rigid pavement design as per IRC 58 and the construction of rigid pavements. The lecture by Dr. S. Moses Santhakumar was about the new/alternate materials in road construction. He explained the different stages of coir road construction with videos captured by him during the laying of coir roads as part of the ongoing research project on “Performance Evaluation of Coir Geotextile Reinforced Rural Roads in TamilNadu”. The technical sessions of the final day of the workshop were handled by Dr. M. R. Nivitha, Assistant Professor of PSG College of Technology and Dr. K. Muthukkumaran. Dr. K. Muthukkumaran delivered a lecture on ground improvement techniques and Dr. M. R. Nivitha handled topics like rheological characteristics of bitumen and pavement evaluation.

Workshop on Power Quality Enhancement in Distributed Generation

Tiruchirappalli Local Centre of The Institution of Engineers (India) in association with National Institute of Technology, Tiruchirappalli organized an All India Workshop during July 19-20, 2019 at its premises in BHEL Campus. The theme of the workshop was “Power Quality Enhancement in Distributed Generation”.

The objective of the workshop was to equip the participants with a technical know how on the power quality issues pertaining to Distributed Generation in specific due to the penetration of various DG units. This programme will help the participants to gain knowledge on the issues related to the power quality of Distributed

Generation, the intricacies in integrating DGs, necessity to investigate the protection devises in the system on DG penetration, current research and critical issues.

Distributed power generation systems comprising of small generation and storage units are gaining popularity due to increasing energy demand. Some of the focus areas of the programme were various control challenges such as coordinated control, voltage and transient stability of micro grid, protection issues, energy management and solution of interconnection issues of Distributed



Generation. Also Electric Vehicles (EVs) are gradually gaining importance and it is expected to have more electric vehicles in practice in near future. Many researchers have already started to focus on the operational issues and charging of EVs. Also, effective charging and utility of these EVs need special attention as they would become a significant component of smart distribution systems in near future. This workshop also aimed at focused discussions on optimal scheduling of loads including the impact of electric vehicles in smart distribution systems.

Research & Development

NIT Tiruchirappalli received Rs.7.00 crores grant under Scheme for promotion of Academic and Research Collaboration (SPARC)

A total of 11 projects have been sanctioned under Scheme for promotion of Academic and Research Collaboration (SPARC), an initiative by Ministry of Human Resource and Development (MHRD), Government of India, which aims at promoting research ecosystem at higher learning institutes by facilitating academic and research collaborations between reputed Indian institutions and the top-ranked international institutes, in order to provide solutions to the problems of national and international relevance. IIT Kharagpur serves as the National Coordinating institute and Nodal Institutions involved in this scheme will implement the scheme to significantly enhance the research collaboration with best Institutes abroad, thereby improving the research ambience of our country. NIT-T is the Nodal institute for

ambience of our country. NIT-T is the Nodal institute for research collaborations with Sweden under SPARC. In this regard, an amount of Rs.7.00 crores have been sanctioned to 11 faculty members belonging to various disciplines of Science and Engineering in collaboration with leading countries like USA, UK, Canada and Australia etc. Nearly 23 project proposals received from all over India to Sweden were processed by NIT-T. Further 2 projects are sanctioned under UKERI SPARC support Programme.

NIT Tiruchirappalli Director, Prof. Mini Shaji Thomas congratulated the concerned faculty members who worked hard to achieve this feat.

Research & Consultancy

LIST OF R&D PROJECTS SANCTIONED

Dr.R.Periyasamy, Assistant Professor of the Department of ICE received a grant to the tune of Rs 18,34,260 for Development of Differential Multimodal Spectral Imaging system to detect foot sole risk areas in Diabetic Patients under SERB-ECR scheme for 2 years.

Dr. P. Srinivasa Rao Nayak, Assistant Professor, Dr. Sishaj P. Simon, Associate Professor, Dr. K. Sundareswaran, Professor of the Department of EEE received a grant to the tune of Rs 32,40,138 for Design, Implementation and Wireless Power Transfer and PV System for Battery Charging of Passenger e-Bus from CPRI for 2 years.

Dr. D. Nagarajan, Assistant Professor, of the Department of MME received a grant to the tune of Rs 8,61,885 for Formability Analysis of Magnesium AZ31Alloy Sheets During the Incremental Forming Process under SERB-ECR scheme for 2 years.

Dr. N. Ramesh Babu, Associate Professor, Dr. B. Ravishankar Professor of the Department of MME has been sanctioned the DST-Indo-Russian Joint Project on Development of Nanostructure Titanium Implants with Bioactive and Antibacterial Composite Coatings for Dental and Maxillofacial Applications along with the Russian partner Prof. Ruslan Z. Valiev, Ufa State Aviation for Rs 94,03,920.



Dr. A. Sreekanth, Associate Professor, Department of Chemistry received a grant to the tune of Rs.1716000/-for Design and Synthesis of Sugar-orphyrin Conjugates and its metal complexes for the application of photodynamic Therapy under CSIR, New Delhi for 3 years.

Ms. A. Amirthavarshiny, B.Tech (ICE), Ms. Bhawna Mukhija, M.Sc Physics, Mr. Ravi Kumar, M.Sc Physics of Physics received a grant to the tune of Rs.205214/- for Detection of 21 cm line hydrogen spectrum from the galactic plane through background elimination under Department of Space - Vikram Sarabhai Innovation Competition (VISION) 2019 Award for 6 months under the guidance of Dr. R. Justin Joseyphus Principal Investigator : Head of the Department, Dept.

Shri N. Vijay, Research Scholar of Dr. S. Velmathi, Professor, Department of Chemistry received a grant to the tune of Rs.940000/- under SERB - Overseas Visiting Doctoral Fellowship for 6 months & visit National Chiao Tung University, Taiwan under the guidance of Dr. Wu Shu Pao.

LIST OF CONSULTANCY WORKS UNDERTAKEN

Dr.K.Baskar, Professor, Department of Civil Engineering, on Vetting of Design Calculation and drawing for the project on Design of MJBR & Flyover, Rs 11,80,000 for M/s. D.P JAIN & CO Infrastructure Pvt Ltd, Karnataka, Vetting of Design Calculation and drawing for the Proposed Blade Manufacturing facility for M/s.TPI Composites Chennai, Rs 11,76,994 & Vetting of design calculation for the proposed Ware House Building 3C01 for the FIH India developes PVT Ltd,Chennai, Rs 50,920.

Dr.K.Muthukumar, Professor, Department of Civil Engineering, on Geotechnical Investigation for work Extension of Terminal Building, Construction of staff quarters, Construction of Apron and Extension of Runway at Coimbatore International Airport, M/s. The joint General Manager (Engg-Civil), Airports Authority of India, Coimbatore International Airport, Coimbatore, Rs 44,21,784 & Testing of Samples for the proposed Earthwork for forming bank, .construction of new minor bridges and LUS between CH:13000 TO ch:18000, Rs 84, 960

Life time achievement award to Dr. S. Raghavan

The research scholars of Dr. S. Raghavan, Professor, ECE department, across Tamilnadu, Pondicherry, Kerala and Karnataka formed a special interest group 'Microwave Integrated Circuit Research Scholars Group of Prof. S. Raghavan'. The group was formed on June 9th by Dr. T.Shanmuganantham, Assistant Professor, Pondicherry University and Dr S Suganthi, Professor, Christ University, Bangalore. Based on the contribution to 'Microwave Integrated circuits' Dr. Raghavan has been honoured with 'The Distinguished Professor of Microwave Integrated Circuit' award. The award was given through his senior research scholar in IIT Delhi. Besides, the present Hon, Lt. Governor of Pondicherry, Dr. Kiran Bedi in the Raj Bhavan congratulated Dr. S. Raghavan over his achievements. She wanted the group to make their research useful to the society in general and downtrodden in particular. The group informed that the Microwave Integrated Circuit

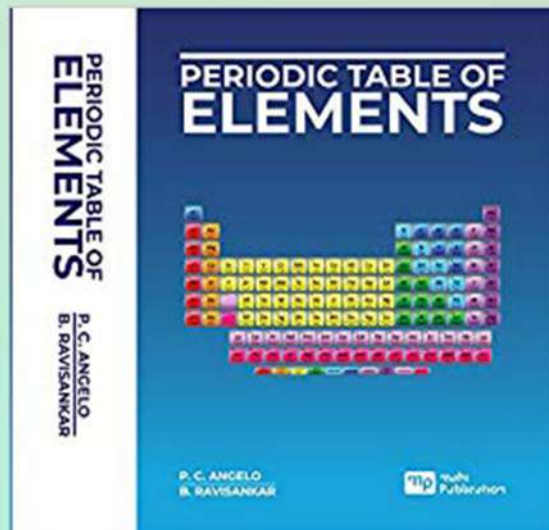


will be of much use in Medical Engineering, Telemedicine, Space applications, Point to point communications, Agriculture, etc.



Book on Periodic Table of Elements

Dr.P.C.Angelo, visiting Professor of PSG College of Technology, Coimbatore, Tamilnadu & Dr.B.Ravisankar, Professor, Department of MME, NIT-T has authored a book, "The Periodic Table of Elements" which describes the efforts made by many scientists to discover new elements, sometimes even at the cost of their lives. The book deals with all the 118 elements discovered so far in detail. The book will be useful for school students, university graduates as well as the general public interested in science. The book will also be very useful to prepare for competitive exams such as NEET, JEE, etc



Article in The Hindu/Education Plus

The Hindu | 26 Aug 2019

VALUE ADD

The role of education is to inculcate the reading habit. This can be done only when reading is made a pleasurable exercise

■ R. JOSEPH PONNIAH



Say no to drills and grammar

The human brain is genetically endowed to acquire language and its grammar naturally by reading and listening, and therefore, making any attempt to learn using explicit rules of grammar will distort the learning process. This is because human beings are biologically wired to acquire any language subconsciously, by focusing on the meaning and not the form. Therefore, compelling learners to focus on language structures by teaching grammar will not facilitate acquisition. Learners, in general, are misguided by giving more exposure to grammar specifically for learning a second language (English), but the fact is there is no different neural system that processes a second language in a different way.

Rules are complex by nature and in the course of simplifying rules, grammarians often misstate rules. Learners learn such misstated rules and assume that they use explicitly learnt grammar rules for answering grammar questions. In fact, they depend on subconsciously acquired grammar knowledge. For instance, I once asked my students to change the sentence 'Jessica is not as tall as Joshua' into the comparative degree. All of them changed the sentence 'Joshua is taller than Jessica'. When asked what rule they used to change the word 'tall' to 'taller', the students immediately responded they have to add either 'er' or 'more' with the adjective 'tall'. In fact, the application of this rule eventually would lead to the possible rewrite of the word both as 'taller' and 'more tall' but none of them preferred the phrase 'more tall' despite the ignorance about adding 'er' with mono-syllabic adjectives. When asked why they did not use 'more tall', they said that would not make any sense. Moreover, they claimed that they have not come across such non-grammatical expressions while reading and listening confirming grammar is acquired incidentally when receiving input in the form of reading and listening. The acquired grammar knowledge can easily be put to use in conducting conversations and answering grammar questions.

Complementary Language properties such as grammar, phoneme, words and syntax do not exist in isolation and they complement each other. Therefore, any attempt to learn the language by classification and segmentation as suggested by grammarians will be inadequate for the purpose of learning a language. In fact, language properties are incidentally acquired by reading. Every time when readers encounter an unknown word, they acquire the partial meaning of the word by fixing the contextual meaning using the current language knowledge and the repeated exposure to such words would help acquire the complete meaning. Further, readers acquire more meaning than the meaning given in a dictionary. Chomsky, while analysing the inadequacy of dictionary meaning, argues that the word 'house' in the sentence 'John is painting the house brown' obviously represents the external surface of the wall and not the complete concrete structure. In this context, the brain considers the external surface of the wall as a house. The nuanced extended deeper-level meaning of words is not given in dictionaries. Such meanings could be acquired by reading.

Human brain quantifies the amount of pleasure it could extract from a learning experience; therefore, if learning is not pleasurable, the inaccessible part of the brain will not allow the language learner to concentrate on the language and, indeed, it would increase learning apprehensions. If language is experienced by reading and listening using pleasure-giving reading materials it would facilitate learning. Pleasure extracted from reading can create a positive attitude towards reading which would help develop a reading habit in English. This eventually would provide more input in the language which in turn would positively affect acquisition. Thus, learners would become autonomous acquirers of the language which is the goal of education.

The writer is the Head of the Department of Humanities and Social Sciences, National Institute of Technology. [Go to settings](#)

- Human beings are biologically wired to acquire any language subconsciously by focusing on the meaning and not the form.
- Rules are very complex by nature and in the course of simplifying rules grammarians often misstate rules.
- Readers acquire more meaning than the meaning given in a dictionary

Rules are complex by nature and in the course of simplifying rules, grammarians often misstate rules.

An article titled 'Say no to drills and grammar' by Dr. R. Joseph Ponniah, Department of Humanities and Social Sciences was published in The Hindu/Education Plus

Staffs retired from service

Shri P. Ramalingam/Main Office
Shri C. Krishnan/Office of the Dean Student Welfare
Shri P. Janakraj Sharma/Security Office



SPIC MACAY

SPIC MACAY, NIT Tiruchirappalli Chapter organized Mohiniyattam Dance Recital by Smt. Gopika Varma and team on 5th August 2019 at NIT-T.

Smt. Gopika Varma, is an eminent Mohiniyattam dancer, is the first ever artist in her trade to be awarded the prestigious Yuva Kala Bharathi title. She was accompanied by co-artists Shri K.C. Gireesh on Vocal Support, Shri P. Sreedharan on Idakka and Shri Aju Ampat on the Flute who are notable virtuosos in their respective fields.



Inauguration of IEEE Antennas and Propagation Student Chapter

The IEEE Student Branch of NIT-Tiruchirappalli successfully got approval for starting a IEEE Antennas and Propagation Student (AP-S) chapter. The AP-S chapter was inaugurated on 8th August 2019 by Dr. D. C. Pande, Retd. Director, LRDE-DRDO, Bangalore. The occasion was graced by Dr. S. S. Karthikeyan, IEEE AP-S, Chair, Madras Section, who is also an Assistant Professor, Dept. of ECE, NIT – Tiruchirappalli. The chapter was inaugurated in the presence of Dr. N. Kumaresan, IEEE Student Branch Counsellor, NIT – Tiruchirappalli, and Dr. S. Raghavan, Senior Member, IEEE A&P. Mr. V. Krushnakanth, Chair, IEEE A&P, gave the vote of thanks and concluded the proceedings



IGNITTE club train Government School students for JEE examination

The new social initiative of IGNITTE, the official teaching club of NIT Trichy titled 'IMPULSE' was inaugurated by Shri. S. Sivarasu, I.A.S. the Tiruchirappalli district collector. Under this initiative, 69 students from 49 Government Schools would be coached for the IIT Joint Entrance Examination on weekends within NIT Trichy campus, which would enable them to join prestigious engineering institutes of the nation.

Dr. Venkata Kirthiga, Faculty Advisor of IGNITTE welcomed the beneficiary students and their parents. Mr. Sanjeev, the founder and former president of IGNITTE, presented an overview of the activities conducted by the club. He mentioned that in 2016, with the help of the erstwhile

district collector of Perambalur Shri. K. Nanthakumar, IGNITTE started coaching students for the IIT Joint Entrance Examination. He added that in 2017, 13 students coached by the club cracked NEET and 2 students cracked the IIT-JEE. This paled in comparison to the outcome in 2018 when 40 students coached by the club cracked NEET and 2 students cracked the IIT-JEE. He highlighted that the efforts of IGNITTE were immensely fruitful with one of the students coached by the club, Ms. Jansi getting admission in the Civil Engineering Department of NIT Trichy this year.

The Director of the institute, Prof Mini Shaji Thomas then wished the beneficiary students for their endeavours. She added that all the facilities required by the students would be provided by the institute and that the only expectation from the students is the dedication to learn.

Shri S.Sivarasu I.A.S, District Collector, Tiruchirappalli in his inaugural address explained about the Institutes of National Importance such as IITs and NITs and their admission process to the students. He said that inferiority complex is the main reason for failure and advised the students to overcome their inferiority complex. He congratulated and thanked the Institute Administration and members of IGNITTE for implementing this initiative.



International Yoga Day Celebrations at NIT, Tiruchirappalli

National Institute of Technology, Tiruchirappalli (NIT-T) celebrated International Day of Yoga in the institute auditorium – Barn Hall on 21st June 2019. The institute organized a high-reaching Yoga demonstration programme for the faculty, staff, students and residential members of NIT-T with great enthusiasm



Dr. Mini Shaji Thomas, Director inaugurated the Yoga day celebration and emphasized on the importance of yoga for strengthening the mental and physical ability, increasing the body flexibility and reducing stress. Different asanas were demonstrated and practiced by all the participants. The staff, students, NSS and NCC volunteers and residential members of NIT-T participated in the Yoga day celebrations

The Director of NIT-T observed the International Day of Yoga celebration and also took part in the practical yoga session. About 100 delegates including faculty members, staff, students, NSS and NCC volunteers and residential members of NIT-T participated in the Yoga day celebrations. On behalf of NSS, NCC and Student's Council of NIT-T, the NSS Coordinator Dr. V. Mariappan coordinated the events. NIT-T has proposed to conduct regular Yoga classes throughout the year for all the students, staff and their family members and has also planned to organize All India NIT Yoga Championship every year to encourage the yoga aspirants

New course on Business and Entrepreneurship for engineers (BEE) by NIT Tiruchirappalli Alumni



National Institute of Technology Tiruchirappalli, has launched a new course for final years of Under Graduates, on 'Business and Entrepreneurship for engineers (BEE)'- an experiential and flipped classroom course- designed and delivered by the industrious NIT-T Alumni. This course is fully formulated and conceptualized by a team of 1984 REC-T alumni including Mr. Baskar Subramanian, Executive advisor Tetherfi and Mr. Shyam Ramamurthy, Independent Consultant & Founder at Catalynk Business Solutions who were very enthusiastic of giving back to the institute which made them what they are.

This course is highly relevant in today's business context, as a 21st-century economy is shaped by the start-up's community. The course was officially inaugurated on August 1st 2019 by Prof. Dr Mini Shaji Thomas, the Director, NIT-T and Mr. Ravi Vishwanathan, Chief Marketing Officer, TCS (Alumnus 1981) in Hotel Sangam, Trichy.

In this course, the students will be exposed to the different concepts of management - finance, legal, operations, marketing, economics, Human resource Management, design thinking. This classroom session is to be followed by Out of Building (OoB) experiential learning, followed by project evaluation by industry experts and venture capitalists.

As a first step, the first set of alumni interactions with the NIT-T students took place during August 7th – 8th, 2019, where Prof. P. C. Narayan, IIM Bangalore handled the classes. The course is being offered by alumni across batches, although it was majorly designed by alumni of 1984. The alumni are delighted to be back at campus for the reason of giving the benefit of their experiences in a structured way to their younger counterparts. The saga of 'Joy of Giving' continues.



Golden Jubilee Friendship Reunion – REC/NIT Trichy Class of 1974

On August 16th and 17th, about 95 members of the Class of 1974, then REC (Regional Engineering College) Trichy now NIT Trichy, celebrated their Golden Jubilee reunion of Friendship along with their spouses, Children and Grandchildren. The total strength of the gathering was 180 in number. The Alumni visited the Institute on 16th and had a great gathering with nostalgic moments. They all visited the Departments, Hostels and took a campus tour. They were given a warm welcome by the Director, Deans and other faculty members of the Institute. Current Students also were very happy to interact with the senior Alumni. RECAL the Alumni Association of REC/NIT Trichy honoured the Alumni along with the Institute Management.



The celebration continued with Gala Night Dinner and entertainments in the city. The featured event was an evening of food, fun and music. Mr Rajshekar took the lead as the reunion committee chair, and he and his team created a memorable weekend of activities.



NITT IN NEWS

Canadian honour to Prof Mini Thomas
DC CORRESPONDENT
TIRUCHY, MAY 2

In a unique honour, Prof. Mini Shaji Thomas, director, NIT, Tiruchirappalli has been elected as the vice president for this year and president for next year of the 'Shriest Indo-Canadian Institute (SICI)' at the annual India members council meeting held in Canada recently. An NIT release said that SICI became bi-national in 2005. It has the honour of being the only premier academic institutions in India (including IITs, IIMs, NITs, Law schools, Central and State Universities) and 34 universities in Canada. The SICI is funded by and partners closely with government bodies both in India and Canada, the release added.

Coached by NIT students, disabled girl clears JEE hurdle
A 19-year-old girl with a physical disability cleared the JEE Main exam after being coached by NIT students. The girl, who is from a rural area, was coached by NIT students for several months. She scored well in the exam and is now preparing for the JEE Advanced exam.

NIT to organise admissions to central institutions this year
NIT Trichy will be organising admissions to various central institutions for the first time this year. The institute has been selected as one of the participating institutions for the process.

NIT-Trichy still among top pick for JEE main toppers
NIT Trichy continues to be a top choice for students who score high marks in the JEE Main exam. The institute's reputation for quality education and research is a major factor in their decision.

ISRO OPENS INCUBATION CENTRE IN NIT-T
ISRO has inaugurated a new incubation centre at NIT Trichy. The centre is aimed at providing a platform for students and faculty members to develop and commercialise their research projects. The inauguration was held with a ceremony where the ISRO representative and NIT officials exchanged mementos.

ISRO opens incubation centre on NIT campus
The ISRO incubation centre at NIT Trichy will provide a conducive environment for the development of space-related technologies. It will offer various facilities and support to the incubated projects.

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TIRUCHY, MAY 2

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'Right policies by govt key to better education'
The President of the NIT Trichy Alumni Association has emphasized that the government's policies are crucial for the improvement of higher education in India. He called for more investment in infrastructure and faculty development.

ISRO OPENS INCUBATION CENTRE IN NIT-T
DC CORRESPONDENT
CHENNAI, MAY 29

Space agency ISRO on Wednesday inaugurated its Space Technology Incubation Centre (STIC) and a Memorandum of Understanding was signed in NIT, Tiruchirappalli (NIT-T). It was unveiled remotely by Dr. K. Sivan, chairman, Indian Space Research Organisation (ISRO), secretary, Department of Space, Government of India from the ISRO Headquarters, Bengaluru in Karnataka. This is the first of its kind incubation centre in Southern Region of India, aims at developing innovative indigenous technologies that could be used for future ISRO projects which would significantly benefit the industry, and the press release issued in Chennai said.

Dr. M. Unagathy, Dean (Research & Consultancy) welcomed the gathering, followed by the keynote address by Dr Mini Shaji Thomas, director, NIT-T who addressed the dignitaries, faculty members, industry partners and students research scholars about the golden opportunity available for the student community across the southern region to innovate an idea and develop a commercially viable product thereby contribute to the India Space programme with the support of ISRO scientists. The ISRO Space Technology Incubation Centre opened at NIT-T will incubate startups to build applications and products in tandem with the industry, and they would be used in future space missions," said ISRO chairman K. Sivan during his inaugural speech.

Space Technology Incubation Centre (STIC) is a novel concept conceived by ISRO to tap the Academia, Industry and R&D institutions in different regions of the country. STIC will provide projects of importance to the ongoing and futuristic programmes of ISRO for the research, postgraduate and undergraduate students. This is expected to incubate the student community research culture among the student community, and the centre is expected to bring the industry, academia and ISRO trial under one umbrella to contribute towards the research and development (R&D) initiatives relevant to Indian Space Programme, which was briefly explained by Dr. P.V. Venkateshwarar, director, Capacity Building Programme Office (CBPO), ISRO. He finally, Dr. Jeevan Kumar Pandi, associate director, capacity building programme office, NIT Trichy, said, "The centre will be a platform for the students and faculty members to develop and commercialise their research projects. The centre will offer various facilities and support to the incubated projects. The inauguration was held with a ceremony where the ISRO representative and NIT officials exchanged mementos.

NIT starts flipped classroom course designed by alumni
NIT Trichy has started a flipped classroom course designed by its alumni. The course is aimed at providing a more interactive and practical learning experience for the students. The flipped classroom model involves students watching lecture videos at home and participating in discussions and problem-solving activities during class time.

NITT



PUBLISHED BY
PUBLIC RELATIONS AND MEDIA TEAM

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