

# JAN - FEB 2021 VOLUME 03, ISSUE 01





Theme: Online Education in the Pandemic Prospects and Challenges





# Director's Message



Greetings.

This is first issue of the institute newsletter to come out since the Covid-19 pandemic transformed life as we know it. This time, the editorial team has aptly chosen to focus on the education sector's response to the challenges presented by the pandemic by deciding on "Online Education in the Pandemic: Prospects and Challenges" as the theme for the present edition.

I can state with immense pleasure and pride that NIT Tiruchirappalli rose to the occasion and proved itself to be undaunted by the manifold difficulties posed by the pandemic. Not merely did we ensure that the campus was equipped to deal with the unanticipated outbreak and spread of the virus, but we also promptly adapted to the migration of academic activities to the virtual sphere. The institute joined the fight against the pandemic on several fronts, issuing face masks to frontline workers including its own security, health, and sanitary staff; producing low-cost reusable 3D-printed face-shields; preparing hand sanitizers in-house in accordance with WHO guidelines; and most importantly, setting up a task force to monitor the campus through tele-surveillance and data-gathering for the swift detection and effective management of potential COVID-19 cases.

Furthermore, the institute faculty and support staff have worked tirelessly to ensure that academic activities continued uninterrupted, making a near-seamless transition to digital platforms and even offering downloadable recorded lectures to facilitate access for students living in areas with poor internet connectivity. The institute has developed dedicated web portals for uploading and accessing study materials as well as for conducting online examinations. Our faculty and students have shown great zeal in adapting to the pedagogical demands and challenges of virtual learning environments.

I am especially delighted to report that this academic year, NIT Tiruchirappalli has emerged as one of the early implementers of the vision of the National Education Policy (NEP) 2020 for multidisciplinarity in higher education institutions in the country. Through the prescient introduction of a Master's programme in English Language and Literature in 2020, along with the implementation of a flexible curriculum and the enabling of credit transfer from elite institutions and facilitation of collaboration with industry and research institutions, NIT Tiruchirappalli has demonstrated that its vision aligns with that of the NEP '20 for the integration of vocational education with general education.

I present to you this edition of our newsletter which offers a glimpse into the institute's activities in January and February 2021, with a focus on the institute's exploration of the prospects and challenges of online education.

Dr. Mini Shaji Thomas Director



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### <u>TEAM</u>

Dr.Vinod Balakrishnan Professor, Humanities

Dr.N.Sivakumaran Professor, ICE

Dr.B.Janet Assistant Professor, CA

Dr. Nisha Viswanathan Assistant Professor, Humanities

Dr. Umasankar Patra Assistant Professor, Humanities

Dr.Manju Mahipalan Assistant Professor, DoMS

Dr.Janardanan Balakrishnan Assistant Professor, DoMS

> Ms.K.Bhagyasri Assistant Professor, Architecture

Mr.A.Amalan Joseph Antony, Technical Officer

> Ms.T.R.Priya Office of PR & Media

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# WEBINAR ON NATIONAL EDUCATION POLICY 2020

17.02.2021



A webinar on the **National Education Policy 2020** was organized at NIT Tiruchirappalli on 17th Feb 2021. It was graced by Shri. Bhaskar Bhat, Chairperson of the BoG, NIT Tiruchirappalli; Dr. Mini Shaji Thomas, Director, NIT Tiruchirappalli; and keynote speaker Shri. Anurag Behar, an alumnus of NIT Tiruchirappalli, member of the NEP'20 committee and CEO of the Azim Premji foundation. Inaugurating the webinar, Shri. Bhat stated that NEP has redefined the goal of education by underlining empowerment as well as entrepreneurship as its primary objectives. Dr. Thomas highlighted how NIT Tiruchirappalli has already been aligned with the NEP in its strategic plan 2019-24 by implementing flexible curriculum, credit transfer from elite Institutions, collaboration with industry and research institutions. She underlined the institute's vision of becoming a multidisciplinary research education institute in India.



Drawing extensively from his experience as part of the team that drafted the NEP, the keynote speaker, Shri. Behar, focused on the history and development of the educational policy, its core principles, specific implications to higher education institutes, and its futuristic vision. He explained the various aspects of NEP 2020 with respect to Higher education, such as restructuring the undergraduate education system so that all UG programmes become Interdisciplinary and also integrating vocational education with mainstream education. NEP 20 also envisages large-scale restructuring of higher education institutions by way of consolidation of fragmented smaller Institutes into larger holistic multidisciplinary universities for achieving economies of scale and other synergies.

He emphasised that NEP 2020 is designed with an aim to streamline the regulatory system to achieve excellence and stressed that the accreditation process will be the route to regulation and governance. The new regulatory mechanisms will lay greater emphasis on transparency and will not be prescriptive.

Commending NIT Tiruchirappalli in being an exemplar by already committing to the goals of NEP, he emphasized on the expansion of multidisciplinary culture in universities and adherence to good governance and regulatory The webinar was practices. attended bv participants from all over the country including faculty from sister NITs at Surat, Surathkal, Calicut, Warangal, etc. The webinar ended with a vote of thanks by Professor A.K.Bakthavatsalam.



#### 26.01.2021

The 72nd Republic Day Celebrations were organized in a grand fashion at NIT, Tiruchirappalli. The Director of the Institute, Dr. Mini Shaji Thomas inaugurated the program by unfurling the national flag. She addressed the gathering and saluted the brave jawans who toil endlessly at the borders to ensure our safe, comfortable and independent life.

The director recalled all the great men and women who were responsible for the formation of the Indian Constitution. In analogue to this, she congratulated the NIT fraternity for rising to the challenges of the pandemic and ensuring a swift transition to online teaching and evaluation. She spoke about the institute's strategic plan for the year 2019-24, which has given impetus to the publication and research profile of the institute and resulted in the 9th rank in NIRF rankings. She also highlighted other achievements such as the institute becoming part of the national supercomputing mission, the establishment of the innovation facilitation center set up by the NRDC, the inauguration of AI, IoT, and Intelligent Machines center to be funded by TCS, with upcoming centers of excellence like Energy Harvesting and Advanced Manufacturing in the pipeline. Furthermore she congratulated the Faculty and Students for achieving many milestones in the year 2020.

Followed by the Director's address, cultural programs by B.Arch students, Ladies Club of NITT, and Children's Club of NITT were performed.



#### Covid-19. Pandemic. Lockdown.

These words have become part of our daily vocabulary.

So is online education. The world has accepted and slowly settled down to this new normal - even education-wise. Digital transformation in higher education institutions has been gathering momentum in the previous decades but now at a very rapid pace, post Covid-19. Face-to-face classrooms have now migrated to digital classrooms that lack the learner-instructor relationship.

The teaching and learning community worldwide are battling to overcome the challenges especially without compromising the quality of education. This can be done by taking advantage of the flexibility that online teaching-learning provides. Though we cherish our older methods, it is crucial that we gear up and face the challenges of this new era.

# SPARC Sponsored Online workshop entitled "Environmental and Energy Impacts of Biomass Thermochemical Process"

#### 25.01.2021 to 29.01.2021 Department of Mechanical Engineering and Chemical Engineering

The workshop was conducted by the institute with the objective of introducing the technical development, application, and practice experience of waste to energy Conversion in India as well as promoting the application of technology recent in developing countries to tackle the challenge of of Energy Impacts Biomass Thermochemical Process thus ensuring sustainable development of urbanization and improving the life quality of citizen. The workshop also aimed at establishing a longterm, stable, and close cooperation in science and technology, and widening the international collaboration and communication in waste to energy conversion between India and other developing countries. The resource persons of the event were Prof. Amaro Olimpio Pereira Junior, Economist and Ph.D in Energy Planning from Federal University of Rio de Janeiro, Prof. Claude Cohen, Phd in Energy Planning from the Energy Planning Programme at The Federal University of Rio de Janeiro, Dr. R.Anand Associate Professor in the Department of Mechanical Engineering at the National Institute of Technology, Trichy and Dr.K.M.Meera Sheriffa Begum, Professor in the Department of Chemical Engineering at the National Institute of Technology, Trichy

Topics covered in the workshop:

- Biomass to Biogas and Biofuel,
- Integration of solar energy technologies with biomass thermochemical technologies for uninterrupted energy supply,
- Economics of Natural Resources,
- Case Studies on Economics of Natural Resources,
- Clean and green energy from biomass,
- Biomass and pyrolysis,
- Energy Economics,
- Thermochemical conversion Co combustion of biomass with coal,
- Energy materials for the development of Indigenous Fuel cell stack and interfacing with 2/3-Wheeler for Automotive Applications,
- Life Cycle Assessment of Waste to Energy Technologies,
- Concentrating Solar Power Technologies for Biomass Thermochemical Process,
- Biohydrogen production from waste/wastewater using Microbial Electrochemical System,
- Use of Input-Output Analysis in LCA,
- Nanofluid –PCM –VIP integrated concentrating solar-thermophilic anaerobic reactor for the treatment of municipal solid waste
- Low carbon fuels: Production and applications,
- Thermochemical conversion techniques,
- DSocial and Economic LCA,
- Case Studies on Social and Economic LCA,



# SPARC sponsored' workshop titled "Recent Trends on Metamaterial Antennas for Wireless Applications and Deep Learning Techniques"

#### 15.02.2021 to 26.01.2021

#### **Department of Electronics and Communication Engineering**

This workshop was organized by NIT-Trichy in association with the University of Saskatchewan, Canada as part of SPARC project and scheduled at Department of Electronics and Communication Engineering. The scheme for promotion of Academic and Research Collaboration (SPARC) aims at improving the research ecosystem of India's Higher educational institutions by facilitating academic collaborations between Indian institutions and best institutions in the world from selected 28 nations. The objectives of the programme is to understand the importance of Metamaterial structures and their applications in electromagnetics, to utilize the derived characteristics of Metamaterials into design of advanced antennas, to understand the significance of Artificial Intelligence, and to understand the modern wireless

standards that are crucial for next generation communication.

The resource persons are Dr. Anh Dinh, Professor, Electrical and Computer Engineering, University of Saskatchewan, Canada, Dr. Seokbum Ko, Professor, Electrical and Computer Engineering, university of Saskatchewan, Canada and faculty members from NI &, IIST. The programme was coordinated by Dr.R.Pandeeswari, Dr.V.Sudha and Dr.S.Deivalakshmi of National Institute of Technology Tiruchirappalli, Tamil Nadu

Topics covered in the workshop:

- MIC Components design Made Easy
- Thirty Six Planar transmission lines for MIC
- Antenna Design and simulations
- Smart Antenna Basics
- Metamaterial Basics
- Matematerial inspired Antennas and equivalent circuits
- Challenges in 5G Network
- New waveforms for 5G
- Reconfigurable Intelligent Surface for future wireless communications
- Miniaturization research issues of RF Circuits
- Broadband monopulse Microstrip Antenna Array for radar Applications.
- DL computations, computer arithmetic in DL, DL processor-FPGA, DL processor - ASIC,
- Advanced memory technology
- SW and HW co design (numerical precision and network compression), DL processor evaluation.
- Biomedical Imaging application, Agriculture application, Biomedical imaging application, Super Resolution application.

Moodle is a learning platform and a course management system. NITT has its own moodle server https://moodle.nitt.edu with more than 15 courses in different departments. It is a secure and integrated system to create personalised learning environments.



# **INAUGURATION OF WAVE FLUME FACILITY**

#### 28.01.2021 Department of Civil Engineering

National Institute of Technology, Tiruchirappalli has inducted the State of the art Wave Flume Facility in the Department of Civil Engineering. The Wave Flume Facility is one of its own kind available next to IIT Madras and was inaugurated by Dr. Mini Shaji Thomas, Director, NIT-T on 26th January 2021, during the 72nd Republic Day celebrations. The other dignitaries present were Dr. M. Umapathy, Registrar(i/C), Dr. G. Swaminathan, HoD/Civil Engineering, and Dr. R. Manjula, Facility Initiator, Civil Engg. Department, NIT-T.During the inauguration, Director NIT-T had witnessed the demonstration of different types of wave generation. The Wave Flume Facility (30m long, 1m wide, and 1.2m Height) was constructed at a cost of Rs. 69 Lakhs and this new facility would facilitate world-leading research and innovation in the field of offshore and coastal engineering. The wave flume lab can simulate regular, random, Cnoidal, Solitary, and focusing waves which unlocks a wide range of testing of waves' impact on built and natural environments. Apart from research scholars, all UG and PG students can also access the unique testing facility. Most importantly, it will provide opportunities to develop innovative and unique engineering solutions to grow the blue economy.



NIT-T has been successfully conducting online classes, the ongoing being the third semester. MS Teams and Cisco Webex have been advised as the official platforms for online teaching. Faculty have also used other platforms such as Google Drive, Google classroom, Email and WhatsApp to clarify doubts previously .

# INAUGURATION OF TECHNOGYM



15.02.2021 Sports Centre

Dr. Mini Shaji Thomas, the Director of NIT Tiruchirappalli inaugurated the new Techno-gym on 15th February 2021, in the presence of Dr.M.Umapathy, Registrar (i/c),Dr.N.Kumaresan, Dean (Students Welfare), Dr. Ing.M.Duraiselvam, Dean (Planning and Development) and other officials along with the Students' Council Members. The new Techno-gym consists of technologically assisted equipments and will provide full swing support for enhancing the sports performance of the students to achieve national heights in the fields of sports and games. Notably, NIT Tiruchirappalli is reigning champion for volleyball (women), swimming, badminton, powerlifting and athletics in inter-NIT sports championship. The institute already has a wellequipped sports center, swimming pool, indoor badminton courts, volley-ball and basket-ball courts, football ground and athletic tracks. The new additional facility was set up at the cost of Rs. 35 lakhs with state-of-the-art fitness equipment. At the inauguration, the Director praised the new facility with the hope that it will bring more focus on fitness among the campus community and motivate and assist the fitness enthusiastic students, faculties, and staff members.

Indian government also promotes Swayam, NPTEL platforms to handle the ongoing crisis of online education during the pandemic.

### SICI-GJCLSG sponsored Lecture on "E-waste refurbishing : Trends, Issues & Challenges

#### 25.02.2021- Department of Production Engineering

This online lecture was sponsored by the Shastri Indo-Canadian Institute (SICI) under the auspices of the Golden Jubilee Conference and Lecture Series Grant (GJCLSG 20-21). Our Director. welcomed all the participants and the guest speakers, Prof. Dr. Uday Venkatadri, from Dalhousie University, Canada and Ms. Nalini, Environmental Engineer, Tamil Nadu Pollution Control Board (TNPCB). The director represented Shastri Indo-Canadian Institute (SICI) as the president. The faculty, research scholars, undergraduate students postgraduate students from and Dalhousie University, Canada, National Institute of Technology Tiruchirappalli, and a other institutions in Tamil Nadu attended the lecture.



The guest speaker, Prof. Dr.Uday Venkatadri, delivered a lecture on "Supply chain issues in ewaste recovery in Canada". This was followed by a lecture was on "Rules and regulations on e-waste reuse in developing countries", delivered by Ms.Nalini. Finally, the course coordinator, Dr. S. Venkatesan. Associate Professor. Prasanna Production Department of Engineering, presented a lecture on "Research opportunities on WEEE reuse".

In his concluding remarks, Dr. Prasanna Venkatesan acknowledged the SICI-GJCLS grant, extending his gratitude to Dr. Prachi Kaul, Director (SICI), Prof. Dr. Mini Shaji Thomas, Director (NIT Tiruchirappalli) and President (SICI), as well as the guest speakers and participants.

# Online International workshop on Artificial Intelligence and Machine Learning Techniques for Data Analytics

#### 15.02.2021 to 19.02.2021 Centre of Excellence in Artificial Intelligence (CoE-AI)

The Centre of Excellence in Artificial Intelligence (CoE-AI), National Institute of Technology Tiruchirappalli (NITT) has organized an Online International workshop on **Artificial Intelligence and Machine Learning Techniques for Data Analytics** from February 15, 2021 to February 20, 2021. This is the first workshop organised by CoE-AI, NITT and was inaugurated by the Chief-guest Dr. S. Muthukumaran, Dean R&C, NITT on 15th February 2021. The inauguration ceremony started with the welcome note by Dr. S. Domnic, Associate Professor, Computer Applications, NITT. In the inaugural address, the chief guest mentioned the importance of Artificial Intelligence in this technological era and its applications. Dr. M. Umapathy, Registrar (I/C), NITT delivered the thematic address and highlighted the key features of CoE-AI. He also indicated that NITT has signed MoU with NVIDIA to perform server intensive computations. The computing services of COE-AI can be rendered by all the participants and are open to the research communities. The inaugural ceremony was concluded with Vote of Thanks by Dr. E. Sivasankar, Asst. Professor, CSE, NITT.



The number of participants attending the workshop jacross the globe was 47. The sessions with hands-on for effective understanding on Machine Learning and Deep Learning techniques were planned by the organisers Dr. S. Domnic, Dr. E. Sivasankar and Dr. M. Sridevi. The sessions were handled by domain experts of Artificial Intelligence and Machine Learning from institutes of national importance.

NIT-Tiruchirappalli has developed a dedicated web portal https://studymaterial.nitt.edu for uploading course material such as PowerPoint presentations and lecture notes. Students can access the material using their official email ID credentials. NIT-Tiruchirappalli also has a highly secure examination portal https://cbt.nitt.edu which is again accessible only by NITT staffs and students. Live-time statistics are available that enable the faculty to remotely manage the course of the examination.

## Online Research Methodology and Research Publication Workshop



#### 17.02.2021 to 21.01.2021 Department of Management Studies

The Department of Management Studies. National Institute of Technology Tiruchirappalli, online organized а five-dav "Research Methodology and Publication Workshop" in Social Science from 17-21 February 2021. 34 participants from all over India attended the workshop, Nine resource persons from IIMs, the Corporate sector, NITs, Central and state universities shared their valuable insights with the participants.

The Chief Guest for the inaugural function, Dr. S. Muthukumaran, Dean- Research and Consultancy, National Institute of Technology Tiruchirappalli, spoke about the importance of novelty in research and the integration of AI and Machine learning techniques in the field. He further emphasized that this is the era of research revolution, adding that intangible intellectual property carries much worth in today's world. He advised the participants to make proper use of resources and techniques for research.

Dr. G. Muruganantham, workshop coordinator and Head of the Department, Management Studies, welcomed the Chief Guest and the other participants. In his address, he highlighted the role of research in new knowledge creation and expressed his gratitude to Dr. Mini Shaji Thomas, Director, NIT Trichy, Dr. S. Muthukumaran and to other participants.

## INAUGURATION OF CSE ASSOCIATION 2021

#### 15.02.2021 Department of Computer Science & Engineering

The Inauguration ceremony of the Computer Science and Engineering Association 2021 took place on 19th February 2021 on Youtube for the very first time. The inauguration was open to the public and approximately 200 people were in attendance. It began with an impressive introduction by the chairperson of CSEA, Daniel Sujay. The Head of the Department of Computer Science and Engineering, Dr Rajeswari Sridhar, and Dr Jaya Nirmala, faculty advisor, Computer Science and Engineering Association '21 were on hand to open the inauguration. They presented an overview of the event, explained the goals of CSEA and narrated CSEA's previous endeavours while wishing the students very best for the new edition.

Dr. Mini Shaji Thomas, Director, NIT Trichy graced the occasion and shared the latest updates about the achievements of NIT Trichy through her presidential address. Our chief quest, Mr Padmanabhan Anandan, the CEO of Wadhwani Institute for Artificial Intelligence. an independent not-for-profit research institute focused on developing artificial intelligencebased applications for social good, delivered a wonderful lecture which explained the use of AI in various fields such as healthcare, women and child care, pest- control in crops and covid-19 testing technology.

The lecture was followed by a Q&A session in which the chief guest answered questions posed by the audience. Rohit Kanchi, Treasurer CSEA, presented the vote of thanks after the Q&A session marking the end of the inauguration ceremony of the event.

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## **CURRENTS '21**



#### 26 - 28.02.2021 , Department of Electrical and Electronics Engineering

The EEE department's annual technical symposium, *Currents'21* took place virtually this academic year from the 26th to the 28th of February. Conducted by the EEE Association, the three-day national level symposium typically encompasses seminars, technical contests and quizzes, exhibitions, workshops and paper presentations.

Currents'21 had its inauguration on the morning of the 26th and was graced by the HoD, EEE, the faculty, EEEA members and the student community, with 250+ students attending the ceremony. Dr. Nambi Seshadri, Professor, ECE department, UCSD, was the Guest of Honour. His special lecture titled **"Personal reflection on a career in Wireless Communications"** was delivered right after the inaugural ceremony, followed by a short Q&A session by the students.

Our faculty have strived very hard to compete technology in par with students. Many have seen effective results. NITT arranged workshops for staffs to facilitate the online teaching and learning process which saw enthusiastic participation from the faculty. They have learnt e-content development, tools for effective delivery of content, repository of open resources, how to overcome the challenge of ensuring student attention in online classes, different ways of conducting and proctoring online examinations etc.

Though offline events and seminars could not happen this year, this year's edition of Currents was abounding in events, with 3 technical workshops, 7 online events and 3 guest lectures constituting the highlights. On Day 1, the Machine Learning workshop was held, followed by a lecture by Dr. Nambi. Day 2 was packed with events like Dhruva - a technical problem solving contest, Code Currents - an online coding event, a PCB design workshop and a guest lecture on "Career pathways and recent research into engineering internships" by Mr. Venkatesh Prasad, Senior Technical Leader for Open Innovation at Ford Research and Innovation.

With the release of the official website for Currents'21 on 13th February, events like Capture Currents (a photography contest) and Colloquium (the technical paper presentation event) began accepting entries a week before the inauguration. Day 3 saw the finals of these events, ending with the declaration of the winners. A workshop on "Image processing with Game development" and a guest lecture on "Entrepreneurship and Deep-tech startups in India" by Mr. Ganapathy Subramaniam, Chairman of Cirel Systems and Executive Chairman of IdeaForge, further enriched the concluding day of the symposium.

While the online edition saw the students quickly adapting to the new atmosphere, EEEA went on to successfully conduct almost all of their annual technical and social responsibility events this year as well.

# **RESEARCH AND CONSULTANCY**

### **Sponsored Projects**

Dr. Sunitha, Assistant Professor, Department of Civil Engineering, has been awarded Rs. 72.31 Lakhs for the project titled 'Evaluation of Pavement Performance of Coir Geotextile Reinforce Rural Roads in Tamil Nadu' sponsored by the COIR Board.

Dr. E.S. Gopi, Associate Professor, Department of Electrical and Communication Engineering has received a grant to the tune of Rs.19.82 Lakhs from Gas Turbine Research Establishment (GTRE) which is under DRDO for the project titled 'Hunting Representative Sensors and constructing Regression Model between Sensor outcomes using ML'.

### **Consultancy Projects**

Two project monitoring consultancies were granted to the institute in connection with the Tirunelveli Smart City Project;

- 1.Dr. S. Suresh, Assistant Professor, Department of Mechanical Engineering, has been provided with a subvention of Rs. 35 Lakhs for the project named 'Design, Supply, Installation and Commissioning of 2MW and 3 MW solar power plant'
- 2. Dr. P. J. Alphonse, Associate Professor, Department of Computer Applications, has been awarded Rs. 71.76 Lakhs for the project titled 'Implementation & Enhancement of SCADA system Phase I'.

Dr. U. Srinivasulu Reddy, Assistant Professor, and Dr. S. Dominic, Associate Professor, both belonging to the Department of Computer Applications, have been granted consultancy project by PMG CMS, Indian Navy. The project amount is Rs. 38 Lakhs.

### Shastri Indo Canadian Institute Grant

Under the Shastri Indo-Canadian Institute (SICI), four faculty members have won the Golden Jubilee Conference & Lecture Series Grant.

Dr. P. Kalaichelvi (Professor, Department of Chemical Engineering), Dr. T. K. Radhakrishnan (Professor, Department of Chemical Engineering) and Dr. Samsudeen (Assistant Professor, Department of Chemical Engineering) received conference grant of Rs. 1.10 Lakhs for the 'International Conference on Recent Technologies and Advanced Materials for Green Energy and Sustainable Environment'.

Dr. S. Prasanna Venkatesan, Associate Professor, Department of Production Engineering, secured a lecture grant of Rs. 30000 for the theme 'E-waste refurbishing: Trends, issues and challenges.

### **AICTE ATAL Sponsored FDP**

Under the AICTE ATAL Sponsored FDP program, Dr. Lakshmana Gomathi Nayagam, Associate Professor, Department of Mathematics, and Dr Sishaj P Simon, Associate Professor, Department of Electrical and Electronics Engineering have received an amount of Rs. 93000 for conducting FDP on the topic 'Advances in Fuzzy logic and neural networks in Artificial Intelligence'.

### **SERB Grant & Projects**

Under the Accelerate Vigyan scheme, launched by the Science and Engineering Research Board (SERB), Dr. M. Duraiselvam, Professor, Department of Production Engineering, Dr. D. Ruben Sudhakar, Assistant Professor, Department of Energy and Environment, and Dr. Maheswaran P, Assistant Professor, Department of Electronics and Communication have been awarded a grant worth Rs. 5Lakhs.

As a part of the Teacher Associateship for Research Excellence scheme under the Science and Engineering Research Board (SERB), five projects have been sanctioned with a total grant value of Rs. 10.5 Lakhs to the institute under the mentorship of Dr. C. Mala (Professor, Department of Computer Science Engineering), Dr. D. Sriram Kumar (Professor, Department of Electronics and Communication Engineering), Dr. N. Sivakumaran (Professor, Department of Instrumentation and Control Engineering), Dr. G. Saravana Ilango (Associate Professor, Electrical and Electronics Engineering) and Dr. K. Sivaprasad (Associate Professor, Metallurgical and Materials Engineering).



# STUDENTS

### PRAGYAN 2020

Pragyan, the techno-managerial fest of NIT Tiruchirappalli, is the result of constant efforts put in by its members to celebrate technology. Pragyan along with the Technical Council of NIT Tiruchirappalli continuously strives to make students more aware of the existing and emerging technology. This has been done by conducting various workshops to tune their skills, events to bring out their competitive spirit, and guest lectures with renowned speakers such as Dr. David Reitze to widen their grasp on technology.



### THE CHALLENGES OF ONLINE EDUCATION

#### **PHYSICAL**

- Ensuring basic digital infrastructure like laptops, uninterrupted network connectivity
- Threats of interruption in power supply

#### **NON-PHYSICAL**

- Limited teacher-student face-to-face
  interaction
- No peer-to-peer interaction
- Group discussions are difficult
- It is dependent on the internet

### WHAT PSYCHIATRISTS SUGGEST

- Online classes cannot nurture social and life skills
- It will reduce multitasking skills as extra focus is given on screen
- Students need to be engaged in nonscreen activities during leisure times

- In order to bring out the spark in the younger minds, an initiative called **Young Techie** was conducted to provide them with a stage for them to showcase their talent and an opportunity to convert their idea into products.
- Sangam, the intra-collegiate hardware hackathon, and Ingenium, the inter-collegiate technical exhibition were initiated.
- A number of webinars, exhibits, and live interview series like **Backstage and Prosthesis** were conducted to feed students' curiosity and knowledge.
- An initiative called *iCitizen* was launched to spread awareness about the various government services available to the general public.
- In an effort to guide the young generation, a career guidance counseling session named Career
   Compass was conducted.



- The **Pragyan Blog** has a worldwide audience who benefits from fascinating articles that are rich with knowledge and information. In an attempt to make the freshmen batch feel at ease with their transition from school to college life, Pragyan dedicated a series of articles focusing exclusively on life at NITT.
- The **Pragyan Podcast** serves as a mountain of knowledge about varied fields and has witnessed many experts share their insights on various intriguing topics. Recent topics of discussion include startups and sustainable development.
  - A collaborative effort with all the student-run clubs of NITT and the technical council paved the way for **InHoTT**, a special series of events conducted exclusively for the first-year students in our institute.

#### **SURVEY THE GROUP WITH POLLS**

Instead of typing a question into a channel, why not use a poll to gather feedback more efficiently? Click the Forms icon below the message box to create and send a poll in MS Teams.





#### **TOGETHER MODE**



Together Mode in MS Teams places all your meeting participants on a shared background to make it appear that they are all sitting in the same room (like an auditorium or cafe.) it is located in your in-call background options.

# Inauguration of IEEE Student Branch Activities for 2021

#### 28.01.2021

The inaugural ceremony of IEEE Student Branch activities for the year 2021 was conducted on 28th January, 2021 over the WebEx Meetings platform. The Chief Guest at the occasion was Mr. A. Aravind Raj, R&D Engineer, Hitachi ABB Power Grids, Chennai. The ceremony began with an invocation followed by the welcome address by Mr. Nagendra Tiwari, Vice-Chairman, SB 2020. Dr. N. Kumaresan, SB Advisor gave the presidential address. The activities of SB 2020 were then summarized by Mr. K. Kannadasan, Chairman & Secretary, SB 2020. Its office bearers were felicitated by Dr. M. P. Selvan, SB Counsellor who also introduced the new office bearers of SB 2021. The Chief Guest then gave the inaugural address, after which the action plan for 2021 was presented bv Mr.K.Kannadasan, Chairman, SB 2021. The ceremony was concluded after the vote of thanks given by Mr. Alok Kumar, Vice-Chairman, SB 2021.



### Technical talk by Mr. Aravind Raj A.on 28.01.2021

The IEEE Student Branch of NIT-Tiruchirappalli organized a technical talk via WebEx Meetings on **"Recent Trends in FACTS"** by Mr. A. Aravind Raj, R&D Engineer, Hitachi ABB Power Grids, Chennai. Mr. Raj covered different topics like introduction to FACTS technology, series compensation using series capacitors and TCSC, shunt compensation using SVC and STATCOM and the recent trends in this field like hybrid solutions. The session was attended by UG & PG students, PhD scholars and faculties from various departments of NIT Tiruchirappalli.

#### Technical Talk by Dr. V. S. Srinivasan on 29.01.2021

The IEEE Student Branch of NIT-Tiruchirappalli in association with IEEE Madras Section organized a technical talk on **"Science Behind Engineering Materials"** by Dr. V. S. Srinivasan, Professor, Homi Bhabha National Institute and Head, LIMS, IGCAR, Kalpakkam.

Chairman. MAS Dr.Kumarappan. IEEE introduced the speaker. Dr. Srinivasan covered topics like different types of bonding. fundamentals of crystals and microstructure, mechanical testing, fatigue and creep of materials, remaining life assessment (end of service). modeling and simulation. superconductivity and Zirconium alloy- the material used for thermal nuclear reactors. The session was attended by UG & PG students, PhD scholars and faculties from all over the country.







### MANAGING THE STRESS ON EYES DUE TO EXTENDED SCREENTIME

- Blue-light filters available online
  (Some studies find these Ineffective)
- Artificial tear drops, intake of omega-3 fatty acids
- Increasing blink rate
- Anti-glare glasses to correct refractive errors (usefulness is somewhat controversial)
- Avoid rubbing the eyes.
- Eat well, balance your hormones
- Drink more water
- Take a second opinion on medicine, prescription.
- Keep contact lenses clean if you are wearing one.

### ENERGAIA '21

#### 30.01.2021- 31.01.2021 Department of Energy and Environment

Energaia'21 was a two-day technical fest organized by the Department of Energy and NIT Environment. Tiruchirappalli. The department of energy and environment hosted its first ever virtual technical fest Energaia'21. The event focused on providing practical insight into the recent developments and endeavours in the field of energy. The event was coordinated by Dr. Ruben Sudhakar D, Asst Professor, DEE, NITT and Dr. Jaganathan VM, Asst. Professor, DEE, NITT and by students Inkula Bhargav, Ashin KK, Meenakshi Priyadarsini, and Raichel Nivetha X. The session started with the inauguration by

Dr. N. Kumerasan, Dean, Student welfare, followed by the Logo launch. During his speech, he encouraged the students to grab the opportunities, learn and overcome every hurdle as engineers.



Dr. Anantharaman felicitated the event while pointing out the significance of renewable energy studies and research. The ceremony was concluded by Dr. Premalatha M, head of the department, DEE.

#### Activities missed by students when attending online classes at home



The webinar session in the forenoon was on topic "Biomass gasification for sustainable future" presented by Dr.V.Kirubakaran, Director In-Charge, Centre for Rural energy Gandhigram Rural Institute. The afternoon session also had a webinar on the topic "India's Policies and Proarams on improving Solid Waste Management: exploring ground realities" which was presented by Dr. R. Rajamanikam, Project Coordinator, Center for Environment and Humanity, Kodaikanal International School, Kodaikanal. Alongside, the team conducted the following technical events: grey matter and poster pro.

On day 2, the webinars for forenoon sessions were collaborated with Siemens Centre of Excellence in Manufacturing, NITT, hosted by Smt. Sindhiya M, Application engineer, Electrical and Energy saving laboratory, on "Digitalization in Energy Savina Technology". The morning session further continued with a webinar on "Scope of Green Power Market in Tamil Nadu", by Mr. Vijavaragavan, Director, ABI Energy Consultancy Services(P) Ltd. The session for afternoon commenced with a webinar on "Generating innovation" ideas to handled bv Mr. Puqalenthi Nandagopal, Sr. Manager, Siemens Energy, Gurgaon.



In addition to technical and formal event, informal events were also conducted. Finally, Energaia'21 winded up with the valedictory ceremony wherein the winners were announced and awarded with e- certificates and cash prizes.

### Eureka, the free JEE Main Mock Test by IGNITTE

#### 20.02.2021 & 21.02.2021

IGNITTE conducted Eureka, a free JEE Main Mock Test for all JEE Aspirants. The JEE Main Mock Test was conducted through the official IGNITTE website – www.ignitte.org on 20th and 21st of February. The questions were curated by the students of the club to match the difficulty and pattern of the official Mains exam. This mock test was extremely beneficial to all JEE aspirants as it gave them the chance to level the playing field by removing the concept of cost constraints out of the equation. The session received over 150 applicants, including many students from government schools. The students who benefited from the test said that they were waiting for more mock tests and exam strategy tips from IGNITTE's end.



### **FESTEMBER 2020**

The 46th edition of Festember, themed "Fantasy Realm", was an extravagant event spread over the course of a few weeks. Festember was held entirely online this year as a consequence of the ensuing pandemic. However, it proved to not be a significant hurdle but an opportunity for Festember to showcase its merits to a wider, more accessible audience online.

#### Workshops

Festember had several renowned personalities interact, teach and educate attendees during the workshops. The first amongst the three workshops held this year was the Chess Workshop helmed by international the celebrated chess player Ramachandran Ramesh. This was followed by a Pen Mandala workshop by Anuradha Balasubramnyam, the prolific artist who is the founder of Varvnavarthika Arts. The third workshop was a Magic and Mentalism workshop, led by the gifted magician, mentalist, and mind reader Wij Siva.



**Rolling Reels International Film Festival'21** 

#### Rolling Reels International Film Festival

The 6th edition of the annual film festival stepped into international waters for the first time. While submission of entries began from 25th November 2020, the grand event took place on the 23rd and the 24th of January, 2021. The judges consisted of a myriad of stellar film personalities, including Aravind Kathare, Deeraj Vaidy and Ashwin Saravanan to name a few for the preliminary round. Tomm Moore (International category) and KV Anand, Anthony Gonsalvez and Mohan Raja (Indian category) were the on-site jury members for the final section.

A panel discussion on the topic "Relevance of theatres in the era of OTT and futuristic views on filmmaking" was held with the esteemed panelists being writer and director Arun Chidambaram and director Dhilip Kumar. This was followed by an Art Direction Workshop, helmed by established Art Director Rajeevan.

#### **Carpe Diem and Vox Populi**

One of the greatest hallmarks of any edition of Festember is its line of speakers for the illuminating Guest Lecture series. This year's edition included director of the much-acclaimed TV series Money Heist, Alex Rodrigo, the stunning playback singer Shweta Mohan, India's first grandmaster, Viswanathan Anand, distinguished cinematographer, Julio Macat and two celebrated authors - Cathy Cassidy and Cristopher C Doyle. Festember also hosted its first guest in the Vox Populi guest lecture series. The advocate, columnist, and former resident editor of NDTV 24x7, Sanjay Pinto.



#### Channeled Clarity towards Charity

Like every year, this year too Festember gave back to the community that enables it to be what it is. Social Responsibility wing presented the Channeled Clarity towards Charity (CCC), an initiative to engage school children in charitable causes. In CCC, students from participating schools took part in seven refreshing activities, and all proceeds collected were donated to CRY (Child Rights and You) to further the education of the underprivileged.



#### Shahamat

In the middle of the flurry of events, Festember released Shahmat - of Squares and Circles, an enchanting story of two kingdoms and their rulers who meet for a fateful event that could change their countries' histories, presented artfully on a novel web interface - a one-of-a-kind interactive reading experience.



#### ProShows

Festember's biggest attraction has always been its four nights of immense fun - the ProShows, and it vowed to make this year's performances the benchmark for years to come. First in line was the Fusion Night on the 19th of February, headlines by the renowned veena player Rajhesh Vaidhya. The day after, Festember had the quick-witted comic Naveen Richard bring his "One Night Stand-Up" to an eager audience. Next in line was Icon Night boasting of the soulful Vijay Yesudas as its performer. Not to be outdone by the other impressive performances, the last of the ProShows, - Popular Night - had the captivating Shilpa Rao as its headliner. The final bow on the present was Finale, with two multifaceted artists adorning the virtual stage - singer Malavika Manoj and keyboardist Stephen Devassy. The ProShows have always boasted of performers who set the stage and the night ablaze with their intensity, and this edition was no different.

#### **Festember Fiesta**

To tickle the quizzing brains with perplexing questions and riddles, Festember launched a series of live events under the banner of Fiesta. Over the course of three days, participants battled against each other on grounds of wit and spontaneity to aim for the pedestal. Prizes worth INR 8000 were up for grabs, and the final round was live streamed on 7th February, serving as an entertaining show for the rest of the spectators.

# ALUMNI

### Recal distributes free laptops under COVID AID Scheme



The Alumni Association has always stood by the institute in its development and progress. Every year the relationship keeps growing stronger. This year the association helped students who face one of the most challenging situations in the pandemic. **Students** from weaker section with no access to technology and hence to online education were the people who suffered the most.

RECAL - The Alumni Association of REC/NIT Trichy in association with NITTSAC and the Alumni Institute Interaction cell, of Office of Dean Institute Development and Alumni Relations organised an event for helping such students in these tough times of online education. The first batch of laptops for students were sponsored by the batch of 1994 under Covid-Aid Scheme. The event was virtually inaugurated by Director of NIT, Tiruchirappalli Dr. Mini Shaji Thomas. RECAL has assured that this is only the beginning of more aids for students under financial disadvantage, especially in these testing times.

### NIT Tiruchirappalli graduate becomes US Army's first Chief Information Officer

In a proud moment for NIT, Tiruchirappalli, its alumnus Dr. Raj lyer is appointed as the chief information officer of the US Army. Dr. lyer pursued B.E in Electrical Engineering from the then Regional Engineering College, Tiruchirappalli during 1988-1992. A native of Tiruchirappalli district, Dr. Iyer moved to the US for higher studies after completing his B.E. Dr. lyer has over 25 years of professional experience in both private and government sector and is now the first civilian to be appointed to the post equivalent to a three-star general in the US army. Congratulating Dr.lyer on his success, the Director of NIT, Tiruchirappalli, Dr. (Mrs.) Mini Shaji Thomas said, "NIT Trichy is very proud of his success. Dr. lyer's life will inspire young minds of NIT to pursue their dreams", while adding that his alma mater is looking forward to welcoming him.



### Business Today declares NIT Tiruchirappalli Alumnus as a winner of "India's Best CEO" award

Rajesh Gopinathan who is the CEO and Managing Director of Tata Consultancy Services , is our very own Alumnus. As an additional feather to his cap, he featured in Business Today, January special issue as one of India's Best CEOs under 'Super Large Companies' category. He was one of the 18 winners alongside Mukesh Ambani, Anil Rai Gupta, Kenichi Ayukawa among others. A student of Electrical and Electronics Engineering of 1994 batch at our campus, now spearheading one of the top companies in the country is indeed a privilege and proud moment for NIT, Tiruchirappalli.



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### NIT Tiruchirappalli Alumnus receives Ati Vishisht Seva Medal at Republic Day 2021

Real-Admiral Sreekumar Nair, an alumnus of Electronics and Communication Engineering, NIT Tiruchirappalli 1985 batch received one of the highest honours in the Indian military. He was awarded the Ati Vishisht Seva Medal, which is given to recognize the distinguished service of an exceptional order, during the Republic Day celebrations, 2021 by the Indian Government. He serves as the Admiral Superintendent at, Naval Dockyard, Visakhapatnam and he is also a recipient of Nau Sena Medal. He serves as an inspiration to the people in is alma mater, who are willing to serve the country through armed forces.

### NIT Tiruchirappalli Alumnus receives Nau Sena Medal at Republic Day 2021

One more from our NITT family was also a part of the republic day celebrations 2021 - Commodore Anil Marya who was a student of 1990 batch at NIT, Tiruchirappalli received the Nau Sena Medal which is generally awarded for individual acts of exceptional devotion to duty or courage. NIT Tiruchirappalli takes pride in all its alumni who put themselves before their country.

### NIT Tiruchirappalli Alumnus felicitated by Honourable Education Minister

Nijin V.P, who pursued Master of Technology in Energy Engineering (2020 Batch) from NIT, Tiruchirappalli was felicitated by the Honourable Minister of Education Shri Ramesh Pokhriyal 'Nishank' in recognition of his achievement as the topper across all M.Tech branches. This ceremony was also a part of the Republic Day celebrations. 2021.



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Dr. Nisha Viswanathan Dr. Manju Mahipalan Ms. K. Bhagyasri

# **CONTENT** Office of the PR & Media



National Institute of Technology, Tiruchirappalli, TamilNadu, India - 620015 Institute: +91-431-2503000 / 2504000 Fax: +91-431-2500133 Website: http:/www.nitt.edu Email: mint@nitt.edu