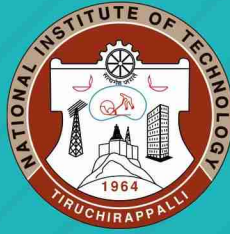


Volume
03
Issue
06



NOVEMBER
DECEMBER
2021

COMM UNITY

*THE OFFICIAL NEWSLETTER OF
NIT TIRUCHIRAPPALLI*





director's

MESSAGE
MESSAGE
MESSAGE
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MESSAGE

Greetings,

I am extremely happy to be back on campus and writing a message for the Institute newsletter. This is my second stint as Director in-charge. I took charge of NIT Tiruchirappalli from Prof. Mini Shaji Thomas in November 2021. Let me take this opportunity, on behalf of the NITT community, to thank Dr. Thomas for her invaluable contributions to the Institute. I wish her all the best in her future endeavours.

We have successfully inducted another batch of BTech students, and I am certain that all of us will commit ourselves and put in our best effort to nurture these students in the next four years. I am also pleased to report that the Institute Heritage Centre was inaugurated in November 2021. The Heritage Centre is a long-awaited addition to our campus, and it is set to host within its walls memorable artefacts of five glorious decades of our successful journey.

Being the foremost NIT and one among the top ten institutes of technology in the country, we need to effectuate NEP 2020 in a comprehensive and time-bound manner. I am happy to note that our NEP 2020 implementation team has been working tirelessly towards sensitizing faculty members in this regard. I am also delighted to announce new collaborations between our institute and C-DAC to establish an Emergency Response Support System, as well as with POSOCO to strengthen our knowledge sharing and research partnership. I also wish to call attention to the research projects secured by our faculty for a total value of 3,03,04,760 INR from major agencies such as SERB, DST, Condé Nast India, and others. Congratulations to the faculty for their achievements.

Additionally, conferences organized by the Transportation Research Group, Indian Geotechnical Society and Organic Chemistry Society have brought national and international researchers together and led to the opening-up of new collaborative opportunities for our faculty and research scholars. I also wish to congratulate the Department of Mathematics for inaugurating a Mathematics Research Forum with the aim of bringing together researchers in Mathematics and related disciplines. I look forward to the workshops and colloquia that will be organized by this forum for the benefit of the academic fraternity.

The much-anticipated return of the 2020 batch of BTech students to campus was made possible by the collective efforts of the Hostel administration and the Student Welfare office. The students' enthusiasm to return to attending offline classes and participating in co-curricular and extracurricular activities have infused the Institute with a renewed vigour. Student development activities through clubs and sports are an integral part of learning and I am happy to note that most of the clubs have made the effort to conduct these activities despite the challenges posed by the pandemic. The work done by IGNITTE to help and serve students from economically backward sections of the society is particularly noteworthy.

I present to you the current issue of the newsletter covering these events and others that occupied us in the months of November and December 2021. I wish you all a happy new year and hope that 2022 brings us an end to the pandemic and a return to normalcy.

Dr. G. Kannabiran
Director

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PUBLIC RELATIONS & MEDIA TEAM

Dr. Vinod Balakrishnan
Professor, Humanities

Dr. N. Sivakumaran
Professor, ICE

Dr. B. Janet
Assistant Professor, CA

Dr. Umasankar Patra
Assistant Professor, Humanities

Dr. Manju Mahipalan
Assistant Professor, DoMS

Dr. Nisha Viswanathan
Assistant Professor, Humanities

Dr. Janarthanan Balakrishnan
Assistant Professor, DoMS

Ms. K. Bhagyasri
Assistant Professor, Architecture

Mr. A. Amalan Joseph Antony
Technical Officer, CSG

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

STUDENTS

Subikshaa Stalin
Batch 2023, Architecture

Thejeshwar Karthikeyan
Batch 2023, Mechanical Engineering

Dinesh Kumar R
Batch 2024, Architecture

Mohammad Abdul Shahad
Batch 2024, Mechanical Engineering



NIT Tiruchirappalli bids adieu to the Director

27.11.2021:

Prof. Mini Shaji Thomas, the torch bearer of NIT Tiruchirappalli completed her successful 5 year term. Prof. Mini had joined the Institute in 2016 as the first Woman Director in the 56-year-old history of the Institute with a dream to take this Institute to her highest glory.

With tireless dedication and zeal, she took consistent efforts to lead the institute as the No.1 NIT among all 31 NITs for the last 6 years in the NIRF India Ranking. Prof. Mini did not leave any stone unturned to attain this feat. Her top-notch contributions towards growth of the institute are the periodical recruitment drives during her term almost after 2 decades that resulted in addition of 119 vibrant faculty including 27 young women, 21 Group A cadre officers and 92 B&C staff.

Five new academic programmes were launched. Six Centres of Excellence in domains such as Advanced Manufacturing, Artificial Intelligence, Energy Harvesting & Storage, Combustion and Emission studies and Electronic System Design, Calibration & Testing has been established at the Institute enabling high-end research facilities. The Institute has bagged many laurels under her able guidance such as National Supercomputing facility, National MOOCs coordinator, PMRF awardee, NRDC IFC, TCS AI Centre to name a few!

Prof. Mini has made NIT Tiruchirappalli as one of the most happening institutes of the country by scrupulously implementing the Strategic Plan (2019-24) of the Institute that improved the NIRF ranking of the Institute from Position 12 to 9 (Engineering Category) and Position 34 to 24 (Overall category) in the last 5 years. As a true visionary, Prof. Mini with her core team has set the road map for the forthcoming years toward fiscal independence of the Institute through increase in internal revenue generation, collaborations with industry and through Alumni funds.

NIT Tiruchirappalli fraternity will forever cherish the golden period under the headship of this phenomenal woman and bids an emotional farewell to this ardent leader. Prof. Mini leaves behind a legacy...!



Dr.G.Kannabiran appointed as Director in charge

28.11.2021:

Dr.G.Kannabiran Senior Professor of NIT Trichy and Director of Indian Institute of Information Technology Sri City, AP has been appointed as Director i/c of NIT Trichy by the Ministry of Education, Government of India.

Dr Kannabiran has served National Institute of Technology, Tiruchirappalli served over three decades in various roles. He has served as Head of the Department for several years and Dean of Research & Consultancy at the institute level. He also served as the Director i/c of NIT Trichy in 2016.

Dr.Kannabiran is the recipient of Commonwealth Professional Fellowship, Fulbright Fellowships, and a British Council Study Fellowship. He served as the national expert of Asian Productivity Organization for international research studies in the areas of Higher Education and Smart Manufacturing.

As the Founding Director of Centre for Entrepreneurship Development and Incubation (Section 8 Company promoted by NITT), he obtained major grants from Ministry of Information Technology, Government of India, Sonata Software Ltd, Asia Foundation and others for promoting innovation and entrepreneurship. He has led the institute to win "High Impact Entrepreneurship Campus Award 2015" jointly conferred by Government of India.

Dr. Kannabiran headed the 'Centre for SME Research Development' at NIT Trichy.

He has carried out sponsored projects with national and international funding including MeitY, AICTE, UKIERI, The Asia Foundation, for about 700 Lakhs in the areas of Industry-Institute Interaction, Computer-based Learning, Entrepreneurship Development, IT Graduate Employability, SME development, Data Privacy etc. He served as the Chairman of institutional-level 'Strategic Planning Group' assisting a major goal-oriented transformation of NIT Tiruchirappalli. He also led the team for development of first strategic plan for NIT Trichy.



His areas of include Business Analysis & IT Consulting, ICT for Development, Business Analytics, IS offshoring, Knowledge management and Software project management. He has served as visiting faculty to many leading institutions including, IIT Madras, IIMs at Kozhikode, Ranchi and Tiruchirappalli. He has spearheaded launch of two new industry-oriented specializations on 'IT consulting' and 'Business Analytics'. He has published/presented about 70 research outputs through international journals and conferences.

He served as the President of Chennai Chapter of International Institute of Business Analysis and served as the Secretary of the Indian Society for Training and Development.

In his role as Director of IIIT Sri City, Dr Kannabiran has launched several initiatives including BTech Specializations in AI & Machine Learning, Cyber Security, Data Science, Cyber physical systems, etc. He has also set up a TBI- Gyan Circle Ventures with a funding of 3.2 Crores from MeitY to provide start-up grant and Entrepreneur-in-Residence. He has also introduced several initiatives for skill development of BTech graduates through curricular and co-curricular reforms. He has recently completed a study on Readiness of SMEs for Industry 4.0 adoption in select 5 industry sectors.



Inking MoU between National Institute of Technology, Tiruchirappalli and Southern Regional Load Despatch Centre (SRLDC), Bangalore

The Power System Operation Corporation Limited (POSOCO), a Government of India Enterprise is devoted to long-term collaboration with academia for knowledge-sharing and capacity building mutually. In this regard, Southern Regional Load Despatch Centre (SRLDC), Bangalore, operated and maintained by POSOCO came forward to sign a Memorandum of Understanding (MoU) with National Institute of Technology, Tiruchirappalli (NITT) for strengthening academic-industry interaction.

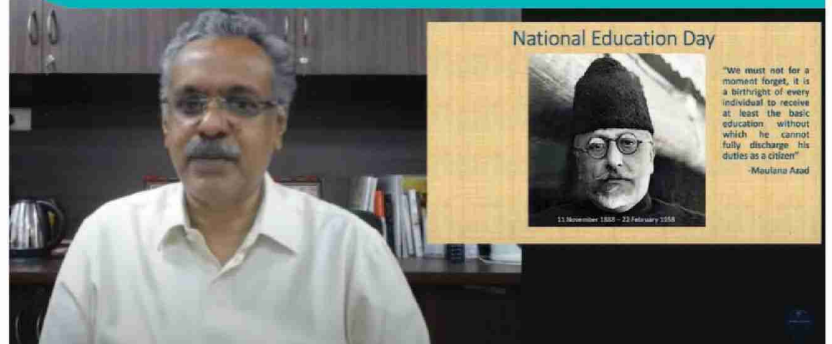
Dr. (Mrs) Mini Shaji Thomas inked the MoU in the presence of Dean (Research and Consultancy) Dr. S. Muthukumar, HoD, EEE Dr. V. Sankaranarayanan, faculty members Dr. N. Kumaresan, Dr. M.P. Selvan, Dr. M. Venkata Kirthiga, and Dr. Senthil Arasu from NITT and Mr. Jerome Amirtharaj J, Assistant Manager (HR) from POSOCO on 08.11.2021.

Dr. (Mrs) Mini Shaji Thomas mentioned that this MoU will give opportunities for the hands-on experience for the faculty members and students working in the area of power engineering. The outcome of this MoU will certainly improve the effectiveness of managing and operating the Indian power grid.

The broad objectives of the MoU are to encourage research on issues related to Indian power sector, design courses as part of industrial experience sharing, enable data sharing, undertake joint Research &

Development projects and encourage joint publications of research paper between SRLDC and NITT based on a Non-Disclosure Agreement (NDA), and other miscellaneous activities as felt jointly by POSOCO and NITT. The MoU shall be valid for a period of three years from the date of execution. Dr. N. Kumaresan, Professor, EEE will be the Coordinator from NITT and Shri S P Kumar, Chief General Manager, SRLDC, POSOCO, will be the Coordinator from Southern Regional Load Despatch Centre (SRLDC) for implementation of this MOU.

Celebration of National Education Day 2021



The Office of Students' Welfare presented "Tracing India's National Education Policy" by Dr.A.K.Bakthavatsalam, Head of HAG and Head of Training and Placements cell NIT Trichy on the occasion of National Education Day.

Dr.A.K. Bakthavatsalam spoke about the National Education Policy, explained the various changes the Indian Education System has undergone over the years and what the education system looks like in the coming years.

Dr Anantharman's Felicitation Conference



The Online International Felicitation Conference on was organized by the Department of Chemical Engineering on the theme of “Environmentally Benign Processes, Products and Materials for Sustainable Ecosystems (EBPPM – 2021)” in Honor of Dr. N Anantharaman, Retd. Professor (HAG) Dept. of Chemical Engineering, NIT Trichy for 2 days (19.11.2021 – 20.11.2021).

The inauguration was conducted in virtual mode with honorable dignitaries including Dr. Mini Shaji Thomas, Dr. P. Kalaichelvi, Professor & Head, Dr. N Anantharaman, (Retd. Professor -HAG), Sri. K S Kasi Viswanathan, Managing Director, Seshasayee Paper and Boards Limited, Erode, Faculty members and students in attendance.

Dr. P. Kalaichelvi formally commenced proceedings by welcoming the gathering. Dr. K. M. Meera Sheriffa Begum, Professor, Department of Chemical Engineering described the various works done by Dr N Anantharaman for Institute and Chemical Engineering department. She emphasized the importance of this conference and elaborated the plenary and invited lectures by eminent faculty members, Dr. Piran Kidambi, Department of Chemical and Biomolecular Engineering, Vanderbilt University, Nashville, Tennessee, USA, Dr. Sreenivasan Ramaswami, Indian Institute of Science, Bengaluru, Dr. S. Sundramoorthy, Pondicherry Engineering College, Pondicherry, Prof. Manish Kumar, University of Peradeniya, Dr. Satyavrata Samavedi, Indian Institute of Technology Hyderabad, Mr. Ramasubramanian, Technip India Limited, Chennai, Mr. Ganesh Bhatti, President (Operations), M/s. Sheshasayee paper mills, Erode and Dr. Lukathuyavan, Universiti Teknologi Malaysia on various research works relevant to the conference theme. Totally 37 papers were selected for oral presentations in 6 sessions. Following this, the faculty, Alumni, staff and student of the Department of Chemical Engineering expressed their Felicitation of Dr. N. Anantharaman.

Dr. Mini Shaji Thomas, delivered the Presidential address. She Lauded Dr. N. Anantharaman's contributions in various capacities and his immediate acceptance for any administrative activities, his role as a mentor, teacher, guide to student and teaching community as a senior Professor of the Institute.

The Chief guest Sri. K. S. Kasi Viswanathan appreciated Dr N Anantharaman's efforts in teaching and research. He also expressed his views on conference topic which is very relevant to the current scenario and also explained the necessity of sustainable eco system.

Dr. N. Anantharaman delivered felicitation acceptance speech. He recollected the uniqueness of the eminent personalities like yester Principals, Directors and senior professors of the Institute learning from his interactions. He also emphasized the importance of student teacher relationship, mentoring the students. He also stressed the importance of student teacher relationships.

The conference ended with thanks notes given by Dr. K. Muthukumar Professor, Department of Chemical Engineering.



Inking MoA to establish the center of research on Emergency Response Support System between NIT Tiruchirappalli and C-DAC Thiruvananthapuram

The Centre for Development of Advanced Computing, Thiruvananthapuram (CDAC-T) is a premier research and development organization of Ministry of Electronics and Information Technology, Ministry of Communications and Information Technology, Government of India. Long association with Police departments in Distress Call Response Management System development and rollout activities across the country has made C-DAC the natural choice for MHA to entrust the responsibility of developing the complete solution for Emergency Response Support System (ERSS) to implement 'One India One Emergency Number 112'. MHA, Govt. of India has nominated C-DAC as the Total Solution Provider for the implementation of ERSS-112 across the country. Accordingly, C-DAC has developed the core ERSS solution as per the guidelines of Ministry of Home Affairs, GoI. Currently, the installation of the ERSS-112 is completed in all States and Union Territories. Now, GoI is planning to modernize ERSS-112 with a Next Generation solution that matches the NG-911 systems of USA and Canada in performance and intelligence.

In developing the advanced solutions, C-DAC has come forward to sign a Memorandum of Agreement (MoA) with National Institute of Technology, Tiruchirappalli (NIT-T) seeking consultancy support from NITT for development of advanced analytical solutions using computational intelligence as extension of research, development and implementation for ERSS modernization which is being undertaken and deployed by C-DAC, Thiruvananthapuram across the country.

C-DAC has initiated research work on several advanced domains and problems : Artificial Intelligence and Machine Learning, Big Data and Enterprise Databases, Data Analytics and Visualization, Digital Map Services, GIS-based Analysis, Audio analysis, Speech to Text, Mobile Location Identification, Image Processing, Pattern Matching, Video Streaming and Analysis, Information security and Encryption, Business Intelligence Reports, Fail-safe communications with rescue units, Dedicated Wireless Communication Networks, Video surveillance using Drones, Cloud Telephony, Internet of Things (IoT) and Blockchain Technology.

Dr Mini Shaji Thomas inked the MoA with Mr. Kalai Selvan A, Project Director, ERSS-112, CDAC-T in the presence of Dean (Research and Consultancy) Dr. S. Muthukumar, Dr. N. Sivakumar, Professor, Dept of Instrumentation and Control Engineering & Coordinator, other team members are Dr. T.K. Radhakrishnan, Dr. K. Srinivasan, Dr. Sishaj P. Simon, Dr.M.VenkataKirthiga, Dr.M.Brindha, Dr B.Janet, Dr.Rebekka and Dr. P.A. Karthick. Dr. Mini Shaji Thomas, also said that establishing such a facility in our institute would improve decision-making in emergency situation which minimizes response time and pave way for a better industry and institute interface for a social cause. This collaboration is focused on establishing an automated facility to handle emergency signals and aid available to the people in distress within the best possible time.

Conference of Transportation Research Group of India(CTRG-2021)



National Institute of Technology, Tiruchirappalli (NITT) and Transportation Research Group of India (TRG) jointly organized the 6th Conference of Transportation Research Group of India (CTRG-2021) from 14th to 17th December 2021 at SRM Hotel, Trichy.

The mission of TRG was to aid India's overall growth through focused transportation research, education, and policies in the country. The objective of the Conference was to create and provide a forum for interchange of ideas among researchers, educators, practitioners, managers, and policy-makers in the field of transportation in India and around the world. The details about the conference can be viewed through the following link: <http://www.ctrg2021.trgindia.org/>.

Research papers in a wide spectrum of topics related to transport and mobility were presented and deliberated upon during the Conference, providing an excellent opportunity to understand the recent advances in the different areas of Transportation Engineering. A total of 167 papers were presented during the conference, on themes such as Pavements and Materials, Traffic Flow and ITS, Planning and Travel Behaviour, Sustainable Transport, Traffic, ITS & Mobility, Traffic Safety and Security over the days from 15th - 17th December 2021.

The Inaugural Ceremony of CTRG 2021 on 15th December 2021 was inaugurated by the Chief Guest of the programme, Shri Akhilesh Srivastava, Chief General Manager, NHAI (IT&Highway operation), in the presence of Guest of honor Prof. Kumares C. Sinha, Lyles School of Civil Engineering, Purdue University and the Director (i/c) Prof. G Kannabiran, Director-In charge NIT Trichy. The conference had an interesting line up of Executive Course sessions on various niche areas of Transportation Engineering delivered by eminent personnels, Dr. Aravind Krishna Swamy (IIT Delhi) & Dr. Priyansh Singh (IIT Indore), Dr. Ashish Verma (IISc Bangalore), Dr. Abdul Pinjari & Dr. Tarun Rambha (IISc Bangalore), Dr. Ipsita Banerjee (UC Berkeley, USA),

Dr. Manoranjan Parida (IIT Roorkee), Dr. Ankit Kathuria (IIT Jammu), Dr. Digvijay Pawar (IIT Hyderabad), Er. Akshay Gupta (IIT Roorkee), Dr. Markos Papageorgiou (TU Crete, Greece) & Dr. Bhargava Chilukuri (IIT Madras), Dr. Anjan Kumar & Dr. Lyngdoh (IIT Guwahati).

This conference also saw a spectrum of keynote speakers from various fronts and organizations, including Dr Fwa Tien Fang (NUS Singapore),

Dr. Manoranjan Parida (IIT Roorkee), Dr. Markos Papageorgiou (TU Crete, Grece), Dr. Radhakant Padhi (IISc Banglore), Mr. Rajesh N. (Asia Infra Advisory), Dr. Manoj K Jha (Advancement Strategy Consulting), Dr. Sudhakar Reddy (IIT Kharagpur), Dr. Hans van Lint (Tu Delft), Dr. Said Esa (Ryreson University, Canada), Dr. Laurence Rilett (Auburn University, USA). And, special sessions were being organized with Dr. Ashish Verma (IISc Bangalore), Dr. Abdul Pinjari (IISc Bangalore), Dr. Manoj M (IIT Delhi) & R. Gopalakrishnan (CRIS), Dr. Tarun Rambha (IISc Bangalore).

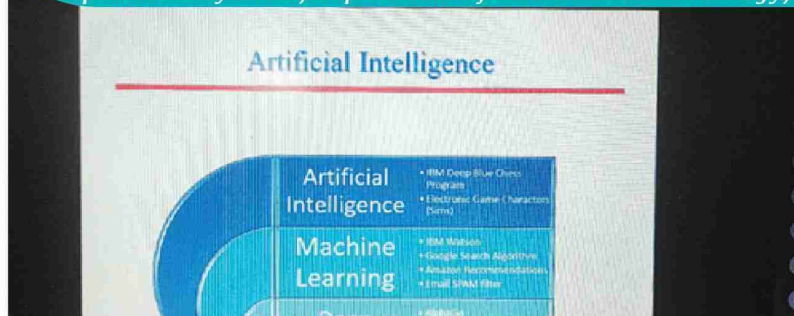
Parallel Workshop Sessions were also held on topics such as Sustainable Transport, Transportation Modes, Planning & Demand Forecast, Traffic Systems Analysis, Highway Materials & Pavement, to be handled by eminent personnel's from academia & Industry.

The organizing committee of the conference included Dr. Samson Mathew, Chairperson, CTRG2021, Director, NATPAC (Professor, National Institute of Technology Tiruchirappalli);

Dr. Sunitha V, Vice-Chairperson, CTRG2021, Assistant Professor, National Institute of Technology Tiruchirappalli, Dr. Marisamynathan S, Vice-Chairperson, CTRG2021, Assistant Professor, National Institute of Technology Tiruchirappalli, Dr. Akhilesh Kumar Maurya, President, TRG, Professor, Indian Institute of Technology Guwahati, Dr. Lelitha Devi Vanajakshi, Chair, Scientific Committee, CTRG 2021, Professor, Indian Institute of Technology Madras

Statistical Modelling & Computational Intelligence

Sponsored by SERB, Department of Science and Technology, Government of India



The Department of Computer Applications, National Institute of Technology Tiruchirappalli organized a one-week high-end workshop on STATISTICAL MODELLING & COMPUTATIONAL INTELLIGENCE (Under Accelerate Vigyan Karyashala Scheme) sponsored by SERB, Department of Science and Technology, Government of India.

The event was conducted from December 06 -12, 2021, organized and coordinated by Prof. P. J. A. Alphonse, Dr. G. R. Gangadharan, and Dr. K. Selvakumar, faculty members of the Department of Computer Applications.

The Seven days Karyashala was inaugurated by Prof. S. Dharmaraja, Professor & Head, Department of Mathematics, Indian Institute of Technology, Delhi. During his inaugural address titled "Challenges in Probability, Statistics, and Stochastic Processes", he presented the applications of probability, statistics and stochastic processes in telecommunications and finance and the challenges in modelling these applications.

The Session 1 of Day 1 was on Statistical Models by Dr. C. Vijayalakshmi, Central University of Tamil Nadu, Tiruvarur, followed by Session 2, a virtual training session on Data Preparation and Preprocessing by Dr. Sivaiah Bellamkonda, IIIT Kottayam, Kerala. The Session 3 and Session 4 of Day1 were on Python Programming (with Hands-On) by Dr. Ghanshyam Bopche, NIT Trichy.

Day 2 consisted of the sessions on Data Mining by Dr. B Surendiran, NIT Puduucherry and Advanced Data Mining by Dr. Chandra Mouli, Central University of Tamilnadu, Tiruvarur. The training sessions on SPSS and WEKA were handled by Dr. K. Selvakumar, NIT Trichy.

The forenoon of Day 3 consisted of the two sessions: Big Data Analytics and Hands-on Training on Hadoop Ecosystem by Dr. G.R.Gangadharan, NIT Trichy. The afternoon of Day 3 consisted of the two sessions: Time Series Analysis (with Hands-On) by Dr. C.I. Johnpaul, The National Institute of Engineering, Mysuru.

The Session 1 of Day 4 was on Machine Learning: Algorithms and Applications by Prof. Ashish Ghosh, Indian Statistical Institute, Kolkata, followed by Session 2, a virtual training session on MATLAB by Dr. Jitendra Kumar, NIT Trichy. The session 3 of Day 4 was on Deep Learning: Algorithms and Applications by Dr. Rajeswari Sridhar, NIT Trichy, followed by Session 4, a virtual training session on Tensor Flow by Dr. Balaji Ganesh, NIT Trichy.

The forenoon of Day 5 consisted of the theory and hands-on sessions on HDFS & Map Reduce Programming by Dr. G R Gangadharan, NIT Trichy. The afternoon of Day 5 consisted of Evolutionary Computing by Dr. Kannan, Vellore Institute of Technology followed by a virtual training session on R by Dr. K. Selvakumar, NIT Trichy.

The Session 1 of Day 6 was on Ranking & Recommendation Systems by Dr. Chandrashekhara Jatoth, NIT Raipur, followed by Session 2 on Graph Machine Learning (with Demo) by Mr. Swamy Sriharsha, Harsha Conde Nast India Private Limited. The Session 3 and Session 4 of Day 6 were on Data Visualization (with Hands-On) by Dr. Ruso, Wipro Limited.

Day 7 consisted of the following sessions: Stochastic and Combinatorial Optimization by Dr. Vidyottama Jain, Central University of Rajasthan, a virtual training session on Dockers and Containerization by Dr. Balaji Ganesh, NIT Trichy, AI & ML: Industry Perspectives & Trends by Dr. Karthikeyan Ponnalagu, Bosch Engineering Solutions.

Towards the end of the event, a final session was open for Q&A, feedback followed by a Quiz session on the topics covered on statistical modelling and computational intelligence. The event concluded with a valedictory function. The participants were provided with E-certificates of participation.

COVID vaccination in NITT Hospital



VACCINATION CAMPS

With the support of Alumni and District Administration, the Institute arranged for vaccination for employees and their dependents, scholars and students on a first come first serve basis. A total of 3 camps were conducted by the institute on 26th November, 03rd December and 16th December during which approximately COVAXIN and COVISHIELD were administered. Some of the vaccines were allotted for second dose only while the rest of the vaccine doses were open for the people who were vaccinating themselves for the first time. NITT Hospital was used for the purpose of the beneficiaries. Recipients received their vaccinations after the verification of the first dose vaccination form (if applicable) and Aadhar or any other approved valid ID. After vaccination, advisory to follow covid precautions such as wearing a mask, regular sanitization of hands and the importance of social distancing was cautioned to the beneficiaries for the effective tackling of the pandemic as a society.

5-Day Online FDP ATAL workshop

The Department of Energy and Environment, National Institute of Technology Tiruchirappalli conducted a one week faculty development programme on "Biomass to fuels, Chemicals and value-added products for sustainable energy and environmental future" on 20th - 24th December 2021, on a virtual platform of MS Teams, sponsored by AICTE, New Delhi under ATAL Academy.


It is essential to control the emissions immediately through the usage of alternative biofuels, considering the present scenario on the environmental impacts made so far by the present conventional energy sources. The objective of the program is to enrich participant's knowledge and create an awareness about the potential of biomass in India as a source of renewable energy and sustainable alternative to fossil fuels.



The inauguration of this program was held on 20th December 2021 online at 9:00: am. Chief Guest of the program was Dr. P Kanagavel, Scientist, Director and Head, Skill Development and Training Division, National Institute of Wind Energy, Chennai. Prof. M. Premalatha, HOD, Department of Energy and Environment, National institute of Technology Tiruchirappalli, welcomed the chief guest, speakers and participants. About the workshop and importance of biomass to fuels were delivered by Dr. Ruben Sudhakar, Assistant professor, Department of Energy and Environment, National institute of Technology Tiruchirappalli. Followed by presidential address delivered by Dr. G Kannabiran, Director i/c, National Institute of Technology Tiruchirappalli. Next the Chief guest Dr. P Kanagavel inaugurate the ATAL program and he discussed about the importance of energy in present scenario. Felicitation addresses were delivered by Prof. G. Swaminathan, HOD, Dept. of Civil Engg., NITT. Dr. N. Kalaiselvan proposed the vote of thanks. In this faculty development program fourteen technical session were conducted, the eminent professors from IITs, scientists from CSIR Labs and Industrial experts were delivered value added lectures in the program.

The FDP was attended by more than 130 faculties from the various institutes all over India.

Indian Geotechnical Conference 2021 & Annual General Session of Indian Geotechnical Society



Indian Geotechnical Society, Trichy Chapter
and
Department of Civil Engineering,
National Institute of Technology, Tiruchirappalli
cordially invite you to the inauguration of
Indian Geotechnical Conference 2021
&
**Annual General Session of
Indian Geotechnical Society**
on Thursday, 16th December 2021, at 09:00 a.m.
Venue: Barn Hall (Online Platform)
Chief Guest
Shri. D. K. Sen
Whole-time Director and Senior Executive Vice President
(Development Projects), L&T
Guest of Honour
Prof. T. G. Sitharam
Director, IIT Guwahati
In the esteemed presence of
Prof. N. K. Samadhiya **Prof. G. Kannabiran**
President, IGS Director i/c, NIT Tiruchirappalli
Login URL:
<https://www.igc2021trichyvirtual.com/login.php>

Indian Geotechnical Conference Indian Geotechnical Society (IGS) (Formerly known as the Indian National Society of Soil Mechanics and Foundation Engineering) was established in 1948. The Society was affiliated to the International Society of Soil Mechanics and Foundation Engineering (ISSMGE) in the same year and working towards the fulfilment and promotion of its objectives. Indian Geotechnical Conference (IGC) is the annual national flagship event of Indian Geotechnical Society (IGS, New Delhi). This year, it was jointly hosted by the IGS Trichy Chapter and NIT Trichy. The organizing committee of the conference invited the original research and field case study papers from the researchers, academicians, and practicing engineers to be present in the Indian Geotechnical Conference-2021 (IGC 2021) during 16th – 18th December 2021, at NIT Trichy.

Indian Geotechnical Society Trichy chapter was inaugurated on 14th February 2014 & is one among the 48 active local chapters. The objective of the chapter is to provide a common forum for academicians, research workers, designers, construction engineers, equipment manufacturers and others interested in geotechnical activities.

It also works for promoting cooperation among those members for the advancement and dissemination of knowledge in Geotechnical Engineering and their practical application. The chapter has organized many workshops & conferences in a short period which includes 6th Indian Young Geotechnical Engineers Conference (6IYGEC), a biennial event of IGS hosted during 10th & 11th March, 2017.

GEO-INDIA – GEOTECHNICS FOR INFRASTRUCTURE DEVELOPMENT AND INNOVATIVE APPLICATIONS.

The sub-themes under the core theme of the conference are as follows:

1. Soil Behavior and Characterization of Geomaterials
2. Geotechnical, Geological and Geophysical Investigation
3. Foundation Engineering
4. Ground Improvement Techniques
5. Geoenvironmental Engineering
6. Soil Dynamics and Earthquake Geotechnical Engineering
7. Earth Retaining Structures, Dams and Embankments
8. Slope Stability and Landslides
9. Transportation Geotechnics
10. Geosynthetic Applications
11. Computational, Analytical and Numerical Modelling
12. Rock Engineering, Tunneling, Deep Excavations and Underground Constructions
13. Forensic Geotechnical Engineering and Case Studies
14. Others: Behaviour of Unsaturated Soils, Offshore & Marine Geotechnics, Remote Sensing & GIS, Instrumentation & Monitoring, Retrofitting of Geotechnical Structures, Reliability in Geotechnical Engineering, Geotechnical Education, Codes & Standards, & any other relevant topic.

Abstracts of the intended papers on the sub-themes were invited to be submitted on the conference. Papers selected from the conference will now go on to be published by Springer as a proceedings book volume once the quality checks on the accepted papers are passed.

Inauguration of MATHEMATICS RESEARCH FORUM & the celebration of NATIONAL MATHEMATICS DAY

On the occasion of National Mathematics Day in honour of the mathematical genius Srinivasa Ramanujam, the Department of Mathematics, NIT Tiruchirappalli took the opportunity to inaugurate its new Mathematics Research Forum on this significant day.

The new Mathematical Research Forum is an initiative by the faculty of the department to expand the range of its research activities and to encourage wide exploration of research topics among its scholars and students. The inauguration was honored by Prof. A. Sankaranarayan from University of Hyderabad as the chief guest and Director in-charge Dr. G. Kannabiran presided over the inauguration. The inauguration of this new Forum was fully virtual.

The inauguration commenced with the welcome address given by Prof. Lakshmana Gomathi Nayagam Head of Department of Mathematics. In his address, he recalled the achievements of the math genius Srinivasa Ramanujam, spoke about the inception of the National Mathematics Day and emphasized the importance of such a research forum dedicated to the subject of Mathematics inside the institution.

Prof. Lakshmana Gomathi Nayagam stated the motto of the forum as an effort to narrow down the gap between Engineering and Mathematics. He thanked the Director for approving and inaugurating the new Mathematics Research Forum and promised full cooperation with any needed departments.

Then the Dean of Student Welfare, Prof. Kumaresan in his address expressed his happiness to be part of the inauguration and the forum's association with the Student's Welfare department. He wished the new Mathematics Research Forum to conduct its activities in full swing and hopes the forum to benefit all students, scholar and professors across the institute.

Followed by, Dean – Academics Dr. Ram Kalyan Ayyagari in his address expressed his interest to participate in the upcoming activities of the Research Forum. He recalled his childhood affection for Mathematics and hoped to encourage a mathematical perspective to the issues with the Forum. He encouraged the Mathematics department to be more than supporting department and to act more independently.

Before the Chief Guest went on to speak, Prof. Lakshmi Gomathi Nayagam actively took the chance to introduce him to the gathering. The Chief Guest Prof. Sankaranyanan hails from Tirunelveli district in Tamil Nadu. He has his doctoral degree from TIFR and joined in the institution to work on Number Theories. Prof. Sankaranyanan has published more than 100 research articles in Number Theory itself and has guided various scholars who are now a prat prestigious institutins

In his address, Prof. Sankaranarayanan once again recalled the genius works of mathematical legend Srinivasa Ramanujam on the occasion of this National Mathematics Day. From the formulas and the research papers to other renowned geniuses whom he worked with. He reminded, like how the world is without water, science without Mathematics is helpless and there is no Mathematics without numbers. Further he highlighted various institutions for students looking to make a career in Mathematics. He encouraged more and more students take up this subject as it gives them a chance to interact with many global academicians and to develop the subject and the department locally. The chief guest wished the forum and its activities all the very best and thanked NIT Trichy for this opportunity to interact with the Mathematic academicians of the institute.

As the Chief Guest inaugurated the new Forum, Prof. R. Ramanujam Retired Professor, The Institute of Mathematical Sciences, Chennai delivered his Inaugural lecture under the title of Mathematics of resource sharing. In his lecture, Prof. R. Ramanujam proposed to take up a mathematical approach to solve persisting age old socio-political-economic problems. He also spoke about the dilemmas in taking up mathematical approaches to issues.

From simple squabbles in sharing cakes between siblings to complex nuclear disarmament solutions that leave all the parties free on envy, he discussed the possible mathematical solutions that have been considered for various such issues facing society. He motivated the students to take up those democratic questions with a mathematical interest.

Then, the Director i/c Kannabiran who joined in late to preside over the inauguration, congratulated the Department of Mathematics for this initiative. He highlighted the avatars that Mathematics has taken over in all these years, in different forms and motivated the students to evolve in the same pace along with the subject. He wished the Forum to expand its activities further and further in the coming years and ensured full support from his side.

With the vote of thanks by Miss Asha Sebastian at the end, she thanked all the professors, students and scholars attending the inauguration on behalf of the department bringing the inauguration to an end and thus incepting the new Mathematics Research Forum at National Institute of Technology,

NIT Trichy Inaugurates Heritage Centre



The Heritage Centre of NIT Tiruchirappalli was inaugurated on date 24th November 2021 by Bhaskar Bhatt, Chairperson, Board of Governors in the presence of the director and the alumni. The centre which is a joint initiative of the alumni and the Institute, showcases the 56 years of NIT Tiruchirappalli. Speaking on the value of memories, Bhaskar Bhatt, recounted his experience in museums and archives where the past is preserved so that the present generation has an unbroken sense of history and belonging.

Dr. Mini Shaji Thomas, emphasised the need for the Heritage Centre which would provide an audio-visual account of the evolution of NIT Tiruchirappalli which is today an institute of National Importance. The architect of the Heritage Centre Joseph Austin provided a commentary on the different exhibits that speak about the academic and cultural life on the campus. To commemorate the occasion the Institute released a book titled 'The Road Ahead'.

National Virtual NITT Organic Chemistry Conference (NITTOCC-2021)

1st NITTOCC-2021 aim was to explore the frontier research areas in Organic Chemistry. The theme for the conference is inspired from this year's Noble Prize in chemistry given "for the development of asymmetric organo-catalysis."

The main objective of this virtual conference is to provide an online platform to bring together eminent speakers from premier institutes/academic, research labs and leading pharmaceutical industries to provide scientific input and insightful overview of the recent developments/opportunities on each sub theme and

exchange their novel ideas with budding research scholars and young students. The event was organized by Dr. S. Velmathi Professor & Head of the Department, Dr. N. Jothi Lakshmi and Dr. Baby Viswambharan, Assistant Professors, Department of Chemistry. The virtual NITTOCC-2021 3-day conference, In the 1st day Inauguration Dr. S. Velmathi, (Head, Chemistry) welcomed the gathering and honorable director Dr. Kannabiran presided over the function. Chief guest of the inauguration Padmashri Dr. V. K. Singh (IIT Kanpur) addressed on the thematic of the conference organo-catalysis with the presence of eminent invited speakers from academia and industries includes

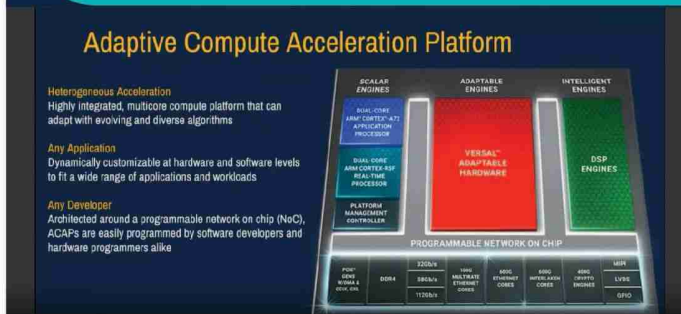
Dr. P. Shanmugam (CSIR-CLRI), Dr. Santanu Mukherjee (IISc-Bangalore), Dr. Debayan Sarkar (NIT Rourkela), Dr. Rodney A. Fernandes (IIT Bombay), Dr. D. B. Ramachary (Central University of Hyderabad), Dr. Kishore Mohanan (CSIR-CDRI), Dr. Ramesh Rasappan (IISER-TVM) and Dr. Shaibu (Syngene Ltd, Bangalore), organizing committee members, Dr. Jothi Lakshmi & Dr. Baby Viswambharan (Assistant Professor's) and participants from across India.

The conference scientific program begins with plenary lecture by Dr. Syam Kumar, (Head PR&D, Eurofin advinus Bangalore) and filled with academic invited lectures and conference ends with key note lecture on the thematic organo-catalysis in Industry by Dr. B. Gopalan, former CEO & Director Orchid Pharmaceuticals.

The conference was successfully completed with 11 invited speakers, 12 oral presentation and 38 poster presentation among 77 participants across India (IIT's, NIT's, IISER's, NISER, NIPER, Central Universities, State Universities, BITS, VIT, private institutions etc) and 60 departmental participants.



5-day workshop on FPGA Based SoC Design Targeted for Implementing AI/ML Algorithms



A 5-day workshop from 27/12/2021 to 31/12/2021 on FPGA Based SoC Design has been jointly organized by the Centre for System-On-Chip (SoC) Design and Fabrication (CSoCDF) and the Department of Computer Applications (CA). The workshop aimed to inspire and educate researchers on implementing Artificial Intelligence (AI) and Machine Learning (ML) algorithms using FPGAs.

On Day-1, an elaborate introduction on machine learning was given by Dr. G. R. Gangadharan, Associate Professor in the department of CA, in the forenoon session. An in-depth analysis of deep learning and convolutional neural networks (CNN) has been delivered in the afternoon session by Dr. Varun P. Gopi, Assistant Professor Grade-I, Department of ECE.

On Day-2, Dr. Varun P. Gopi has explained how to reduce complexity while computing convolutions to implement CNN. In the afternoon session, Dr. G. Lakshmi Narayanan, Professor in the Department of ECE, lectured on Parallel Processing optimization techniques.

On Day-3, Dr. K. Swaminathan, Head FPGA, Jiva Science PVT LTD, Bangalore, has illustrated the idea of Network-on-Chip. In the afternoon, he demonstrated the realization of signal processing algorithms on an FPGA.

On Day-4, Dr. K. Swaminathan has lectured on hardware accelerators specifically meant for machine learning, and later on, he has demonstrated the realization of basic image processing algorithms on FPGA.

On Day-5, Mr. Prakash G, Senior Faculty CoreEL Technologies, Bangalore, elaborated on the Vitis platform's project. In the afternoon session, he demonstrated an application using Vitis and a hardware emulator-QEMU.

At the end of the workshop, coordinator Dr. Varun P Gopi thanked participants for their whole-hearted support and conveyed gratitude to all the eminent speakers for becoming the backbone of the workshop. The participants' response to the workshop has revealed that they all have gained an understanding of AI/ML implementation in FPGAs and are also enthused by this exciting research area.

Classes resume for second year students

National Institute of Technology Tiruchirappalli (NITT) restarted offline classes for the B.Tech and B.Arch second year students. The decision to restart offline classes was made following the same in state Universities and other private universities in Tamil Nadu. Students residing in hostels went through mandatory quarantine period after returning to the campus from the end of November. According to Dr. G. Kanabiran Director i/c the institute has systematically for implementation of standard operating procedure (SOP) to be followed in the classrooms.



In the morning, housekeeping staff carried out disinfection of classrooms, corridors and restrooms. Students were screened for temperature and other symptoms by the security personnel at the entrance of classroom complex. Only vaccinated students and students younger than 18 years of age with a negative RT-PCR test result were allowed. Students were seated by maintaining proper distancing with masks worn during the entire duration of the classes. During the class, a medical team from NITT hospital visited the classrooms and gave instructions to the students on proper conduct and on COVID appropriate behavior in the classroom. Both the students and faculty were found to be enthusiastic in returning to offline classes and the students expressed their happiness on being able to attend classes in person for the first time since joining the institute. The decision on restarting offline classes for other years will be taken at a later date. Dr. Ramakalyan Ayyagari, Dean Academic said that the classes will be scheduled in such way that a large number of students are not gathered in the classroom areas at the same time. Dr. Umapathy Deputy Director advised the students to adhere to the Covid protocol sincerely so that the all the co-curricular and extra curricular activities could happen without any issues. Dr. N. Kumaresan and Dean (Academic) was present on the occasion.

First year B.Tech./B.Arch. Orientation programme- Inauguration on 15.12.2021



The National Institute of Technology, Tiruchirappalli, saw the inauguration of their Orientation Program for the incoming batch of freshers. The virtual ceremony began with a melodious invocation by the members of the NITT Music Troupe. This was followed by the ceremonial lighting of the lamp by the Director in charge- Dr. G. Kannabiran, the Deputy Director- Dr M. Umapathy, the Dean (Academic) - Dr. Ramakalyan Ayyagari, the Dean (Student Welfare) - Dr. N. Kumaresan, the First Years' Professor in charge Dr. R. Karvembu, and the Student Council President, Madhav Agarwal.

The first among the speakers for the day was the First Years' Professor in charge of NIT Trichy. Dr. R. Karvembu delivered the Welcome Address for the event, followed by a speech by Dr. Ramakalyan Ayyagari, the Dean (Academic).

Next, the Director in charge, Dr. G. Kannabiran, took this opportunity to outline the functioning of the college, the facilities available, and the services provided exclusively by NITT. His speech stood to justify the rank and reputation of the college.

The Inauguration Ceremony was then taken over by the Guest of Honor for the day, Saumya Gupta, an IAS officer and an alumnus of NITT's batch of 2004.

"This institution, NIT Trichy, is the Jewel in our NIT Crown, and on behalf of the ministry, I would like to say that we are so proud to be a part of the same," said the current Secretary of Higher Education of the Ministry of Education, Government of India. "I heartily congratulate the parents. As the Director just said, rest assured that your wards are in good hands. With the outstanding team here, we see them taking the institution to even greater heights. On my part, I would like to assure you all of every possible support from the Ministry." This was followed by the Chairperson of the Board of Governors of NITT, Mr. Bhasker Bhat. He highlighted the fact that "These Institutes of National Importance have built an ecosystem of alumni that is best in class across the country.", and encouraged the listeners to have pride and honour in the nation and the college.

The Deputy Director, Dr. Umapathy, the Dean of Student Welfare, Dr. N. Kumaresan, Dean of Planning and Development, Dr. M. Duraiselvam, and the Dean of Faculty Welfare, Dr. L. Cindrella, went on to further extend a warm welcome to the parents and students of the incoming batch. The orators then detailed their team's continuous efforts towards bringing positive changes to the college.

The Associate Dean (International Relations), Dr. G. R. Gangadharan, and the Dean of Research and Consultancy, Dr. S. Muthukumar, comprised the next part of the speakers' list. They addressed the scope of the college and its students in their speeches. They also touched upon the fact that "education is to be enjoyed", which is more than just a possibility at NIT Trichy. "The entire team of NITT is here to help you achieve your goals and ambitions," reassured the Registrar in charge, Dr. M. Arivazhagan.

Professor S. T. Ramesh then delivered the Vote of Thanks on behalf of the team, thus concluding this segment of the Inauguration Program.

A set of interviews with a few college seniors acted as the transition to the next part of the day. They offered insights into life at the NITT campus. Combined with the 10-minute video that followed the interview, this transition served as a glimpse of the learning and enjoying environment at NIT Trichy.

In the second session of the inauguration programme, the Heads of the various departments of NITT addressed the incoming freshers and their parents. The Department HoDs touched upon the offered courses, department culture and the achievements and accolades of each branch. The Heads of the Training and Placement cell, Library, CSG, Siemens COE and Hostel Committee also spoke about the key facilities and contributions from their departments towards this great institute. The Students' Council Presidents gave a motivational speech about their college experience, and what to expect from campus life. Finally, the programme came to an end with the Vote Of Thanks delivered by Dr Jerald, the Associate Dean, Student Welfare. A smooth-running and insightful programme, the inauguration of Orientation '21 was well-received by all, and was indeed a great start to the new and wonderful college journey of the freshers of 2021.

YouTube link of Orientation 2021 held on 15.12.2021, 10.00 AM):

<https://youtu.be/DZ0OkChpWmU>

Research & Consultancy

Consultancy Works

Dr. Jeevan Joseph, Assistant Professor, Dept of Civil Engineering has received a grant to the tune of Rs. 30000 from Govt. ITI Campus, Nagapattinum for consultancy works.

Dr. P.J.A. Alphonse, Professor, Dept. of Mathematics has been awarded Rs. 1832276 by M/S. Conde Nast India Pvt. Ltd., Chennai for consultancy project

Dr. D. Sriram Kumar, Professor, Dept. of ECE has been awarded Rs. 81182 for various consultancy projects.

DR. Duraiselvam, Professor, Dept. of Production Engineering has been awarded Rs. 16520 by SSN College of Eng., Kalavakkam for consultancy project.

Strength Material Lab of the institute has obtained an amount of Rs 133412 for consultancy works.

Environmental Eng. Lab of the institute has obtained an amount of Rs. 111510 for consultancy works.

Research Projects

Mrs. Thenmozhi Ganapathy, WOS-B, has received a grant to the tune of Rs. 2238400 by DST for the project titled "Exploration of variable impedance self-sensing behaviour of Magnetic shape memory alloy actuator for assistive devices". The duration of the project is 36 months.

Dr.V.M. Jaganathan, Assistant Professor, Dept of DEE, has been awarded Rs. 1218281 by MSME for the project titled "Design Expertise to Manufacturing MSME Sector under CLCS-tu Scheme".

Dr. Karthik, Assistant Professor, Dept of MME, has been awarded Rs. 1500000 by Ministry of Mines for the project titled "Exploring the practicability of Extracting platinum and palladium from the mineral beds of Sittampudi village in Salem district of Tamil Nadu an experimental and molecular dynamics approach". The duration of the project is 12 months.

Dr. Baby Viswambharan, Assistant Professor, Dept of Chemistry, has been awarded Rs. 3308040 by SERB for the project titled "Cross oxidative coupling/ cyclization cascade of amino acid enolate and enamines: an umpolung strategy for n heterocyclic compounds (COACCEE)". The duration of the project is 24 months.

Dr. Jothi Lakshmi Nallasivam, Assistant Professor, Dept of Chemistry has received a grant to the tune of Rs. 3943764 by SERB for the project titled "Transition metal catalysed carbo-functionalization of conjugated alkene system: En route to natural and drug cores". The duration of the project is 36 months.

Dr.Sunandan Sarkar, Assistant Professor, Dept of Chemistry has received a grant to the tune of Rs. 2095764 by SERB for the project titled "Atomistic simulations of photoexcited processes of carbon dots based nanohybrids for rational design of efficient light harvesters". The duration of the project is 36 months.

Dr.V. Sunitha, Assistant Professor Department of Civil Engineering has been awarded a research grant of Rs. 6886000 by NHAI for the project titled " Development of optimization models and decision support system for national highways". The duration of the project is 36 months.

Research & Consultancy

Dr. Aneesh Mathew, Assistant Professor, Dept of Civil Engineering has received a grant to the tune of Rs. 2251000 by SERB for the project titled “Spatio temporal modelling and analysis of urban heat island effect over Bangalore and Hyderabad cities in India using geospatial techniques”. The duration of the project is 24 months.

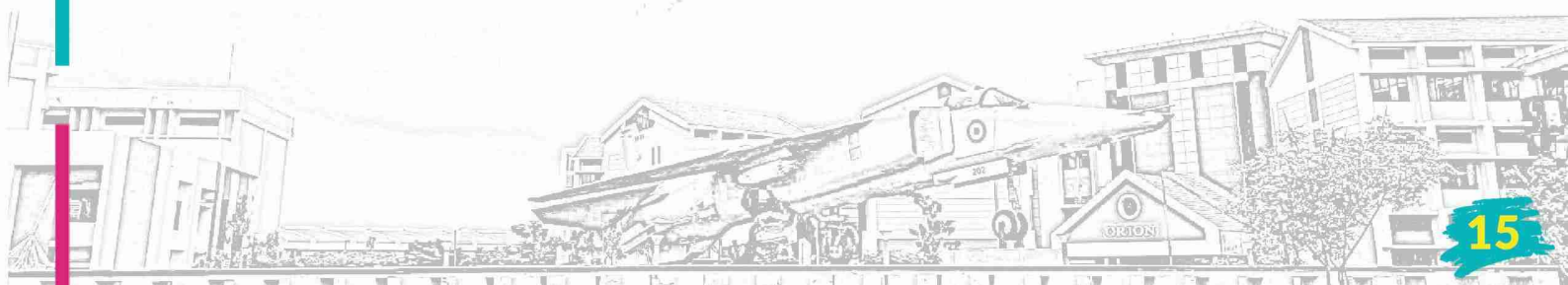
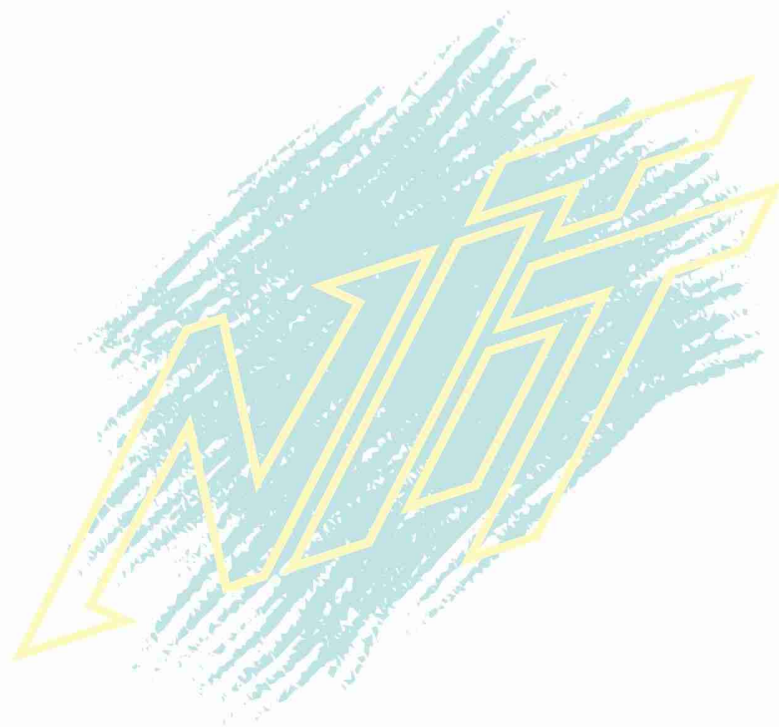
Dr. Prince Gideon Kubendran Amos, Assistant Professor, Dept of MME has received a grant to the tune of Rs. 2846840 by SERB for the project titled “Using statistical data-mining techniques to understand the cumulative influence of geometrical and topological features on grain growth”. The duration of the project is 24 months.

MoUs Signed

An industry national MoU was signed between NIT Trichy and Southern Regional Load Despatch Centre (SRLDC) of Power System Operation Corporation Limited (POSOCO) for a period of three years. The coordinator for the MoU is Dr. V. Sankaranarayanan, Professor, Dept. Of EEE.

An academic national MoA was signed between NIT Trichy and Centre for Development of Advanced Computing, Thiruvananthapuram (C-DAC) (formerly Electronics Research and Development Centre of India) for a period of two years. The coordinator for the MoU is Dr. N. Sivakumaran, Professor, Dept. Of ICE.

Two MoUs were signed between the Office of Dean, Research & Consultancy, NIT Tiruchirappalli and TCS Foundation and Rane India in November 2021.



STUDENTS

IEEE Student Branch Activity Report for December 2021 – Online Session by Mr. K. Kannadasan on 22.12.2021

The IEEE Student Branch of NIT Tiruchirappalli organized an online session on “Sensitization of IEEE SB NITT” on 22nd December 2021 on the virtual platform of YouTube Live. The event was handled by Mr. Kannadasan K, Chairman, IEEE SB NIT-T and Research Scholar, Department of Computer Science Engineering, NIT Tiruchirappalli. Mr. Kannadasan started the session with an introduction to the IEEE organization. He then described the activities organized by the IEEE student branch of NIT Tiruchirappalli and highlighted some of the recent accomplishments.

He spoke at length of the various benefits available to student members and encouraged the non-members among the audience to join IEEE. He also explained the membership application process and revealed the special promotional code for availing 50% discount in the membership fees. The workshop was attended by many participants including UG & PG students, PhD scholars, staff and faculties from NITT. The recording of this session is available in YouTube.



Online Workshop on Bio-inspired Optimization Algorithms

Introduction to Evolutionary Algorithms

THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY
(Approved by AICTE)

Presented by:
Dr. Diwakar Tripathi
Assistant Professor
Thapar Institute of Engineering & Technology,
Patiala, Punjab, India
diwakartri@gmail.com

Grey Wolf Optimizer

Dr. Amruta Vishnu Lipare
Assistant Professor,
Department of Computer Science and Engineering,
Indian Institute of Information Technology Pune, India
(Institute of National Importance, Established by Ministry of Education)
amruta@iiitp.ac.in

Swarm Intelligence

Dr. Amruta Vishnu Lipare
Assistant Professor,
Department of Computer Science and Engineering,
Indian Institute of Information Technology Pune, India
(An Institute of National Importance, Established by Ministry of Education)

Nature Inspired Algorithms

Dr. Sathvi
Assistant Professor,
Indian Institute of Information Technology Dharwad.

A five-day online workshop on Bio-inspired Optimization Algorithms was organized by IEEE Student Branch, National Institute of Technology, Tiruchirappalli (IEEE SB NITT) and IEEE Computer Society Chapter during 04th – 08th Jan 2022. Dr. Diwakar Tripathi, Assistant Professor from Thapar Institute of Engineering & Technology, Patiala, Punjab was the guest speaker for the event. For the five days, the event was scheduled at 4:30 PM to 6:00 PM in order to facilitate the students, working professionals and the faculties. Totally, the workshop had five technical hands-on sessions with 45 participants having registered for the event and the workshop was conducted via WebEx.

The Inaugural ceremony of the event started with the welcome address by Mr. M. Sandhana Mahalingam, Vice-Chairman, IEEE SB. A brief introduction about the IEEE SB NITT and the workshop was given by Mr. Kannadasan K, Chairman, IEEE SB NITT & IEEE CS Chapter. He highlighted the need for a workshop on Optimization Algorithms, especially in today's digital era. Before starting the first session, a short introduction about the speaker, was given Ms. Rachel Dhanaraj, IEEE ExCom Member. Dr. Diwakar Tripathi started the session by introducing Evolutionary Algorithms and its usage.

Detailed steps of Evolutionary Algorithms was discussed. Classification on Optimization problems was explained clearly followed by introduction to BAT Algorithm. The session concluded with Methodology for Feature Selection.

The speaker Dr. Amruta Vishnu Lipare, Assistant Professor, IIIT Pune commenced session 2 with an introduction to Swarm Intelligence. The working approach of Particle Swarm Optimization (PSO) was taught. Concepts on Velocity Updating and Algorithm of PSO was elaborated. Hybridizing with other types of Algorithms was also introduced. Strengths and weaknesses of PSO was clearly specified. Working model of PSO in MATLAB was explained in detail. Application of PSO on Wireless Sensor networks was studied.

Session 3 began with the exploration on Ant Colony Optimization by speaker

Dr. Bhuvaneshwari Amma. Double Bridge Experiments and Combinatorial Optimization were described. Concepts on Artificial Ant were stated. Ant Colony Optimization Metaheuristics was outlined and elaborated in detail. Applications on Ant Colony Optimization was looked upon and one of the applications i.e., Traveling Salesman problem was discussed. ACO algorithm variants were also explained. Research challenges and issues were specified. The session concluded with a MATLAB demo on Ant Colony Optimization.

The fourth session of the forum was based on 'Nature inspired algorithms' by Dr. Sadhvi, Assistant Professor, IIIT Dharwad. Need of Optimization was discussed in detail followed by introduction to traditional algorithms. Stochastic algorithms were elaborated clearly. Characteristics of Nature inspired algorithms were discussed. Moth Flame Optimization was also explained. The session was concluded with a demonstration in MATLAB.

Session 5 started with an introduction to Grey wolf Optimizer by Dr. Amruta Vishnu Lipare, Assistant Professor, IIIT Pune. Working model of Grey wolf Optimizer was discussed. Grey Wolf Hunting was explained clearly. Detailed Algorithm on Grey wolf Optimizer was elaborated. The session on demonstration of Grey wolf Optimizer in MATLAB called it off for the day.

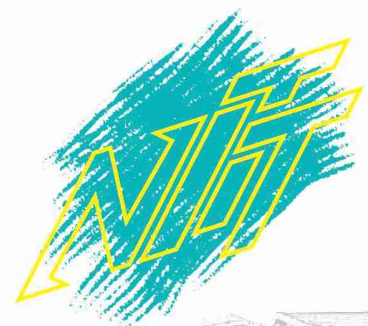
A short valedictory ceremony was scheduled after the last session. Mr. Kannadasan welcomed the audience to the function and presented a certificate of appreciation in recognition of the efforts behind the successful conduct of the event. Participants gave positive feedback regarding the workshop being a good initiative and very informative. The formal vote of thanks was delivered by Dr. M. P. Selvan, IEEE SB Counsellor. Dr. Selvan thanked the speaker, the organizing student team of IEEE SB NITT, and the participants for making the event a great success. He assured that IEEE SB NITT will be organizing events with similar hot topics that are much needed for the upcoming technology-driven world.

Apekshaa work during November/December

Apekshaa, the social responsibility club of NIT Trichy, working by the motto "Someone Somewhere needs you" organizes events mainly for the children and works towards improving the education they receive.

The activities of Apekshaa were severely hampered during the times of COVID induced lockdowns. Despite that, Apekshaa went forward to execute its activities with a Voter ID registration drive ahead of the upcoming assembly polls. With Rs. 50 collected from each individual, they assisted them in registering themselves for their new Voter IDs, via online.

The funds collected from the Voter ID registration drive were positively invested in acquiring new sports gears for the students of REC NITT School. Apekshaa now looks forward towards normalization as it has plans for further activities with schools.



TaskForce NIT Trichy

TaskForce NIT Trichy is the social initiative organization of the college that empowers the student community by implementing new long term viable initiatives and providing community services. It is a huge achievement that during this semester, TaskForce was able to complete 5 initiatives, namely Aadhaar Updation Mela, PAN Card Mela, Bank Account and Loan Mela, Collaboration with Orientation '21 for Online & Offline Helpdesk. TaskForce has directly impacted 300+ students with the Aadhaar update, PAN Card, Bank Account and Loan Mela set of initiatives, 1500+ (1st year and 2nd year students) with the collaboration with the Orientation Team on having online and offline help desks.



TaskForce has also become the first social club of NITT to hit 1000+ followers on Instagram, which is a testament to the relevance they bear among the students' community.

The club has lofty ambitions for this semester and hopes to bring their plans to fruition, achieving greater heights than ever before.

Akkara

Akkara has published the first episode of podcast on anchor platform on the same name

- ⦿ Finished setting up the website
- ⦿ Articles for medium were published
- ⦿ Kept updating the social media of the agriculture relating days
- ⦿ collected details of organic farmers around Trichirappalli
- ⦿ Updated Akkara YouTube channel.

Candlelight Vigil



The untimely demise of late CDS Bipin Rawat, his wife and twelve other officers in a helicopter crash on December 8 at Ooty, Tamil Nadu had shocked the entire nation. To pay homage and mourn the death of India's first Chief of Defence Staff, over 100 students from the National Institute of Technology, Tiruchirappalli took part in a candle light march inside the campus. Organized by its NCC - Air Force wing, the candle light march was led by NITT's Deputy Director Dr. M. Umapathy.

The students marched in silence from the NSO Ground to the MIG 23 Plaza, where the students were addressed on the late military leader's achievements and the contributions to the nation. Not only Mr. Rawat and his wife but also the deaths of twelve other officers were irreplaceable loss for the nation, said the address.

Deputy Director Dr. M. Umapathy in his address to the students, recalled how Bipin Rawat was not just a brilliant military officer, but also a wise academician as well. And, how reformed the Indian Armed Forces till his death in a spaced manner. Not just to conclude, the students gathered stood in silence to pay homage to the late military leader, wife and twelve other officers who lost their lives on the tragic day of December 8.

IGNITTE

Under the Impulse program, 30 students of class 11 have been selected for the academic year 2021-2023. Initially a bridge course was conducted for the students who studied via Tamil medium to get them comfortable with English terms. Following this, another month-long bridge course was conducted for all students to make them more comfortable with the basic concepts studied in their previous years. With the completion of the bridge courses, the syllabus of 11th standard was started from December. For the students of class 12, the syllabus has been completed and they are scheduled for revisions henceforth for their upcoming exams.

KALVITHADAM -

Kalvithadam, one of the many initiatives organized by the club, offers career guidance to the students studying in government schools in Trichy. Kalvithadam conducted its first career guidance session on 21st November 2021 for the students at Government Higher Secondary School, Lalgudi via online mode, in Teachmint platform.

EXPANSION -

From this academic year, the club extends its presence into the district of Tirunelveli. On December 11th 2021, the administration of Tirunelveli district conducted the preliminary objective test for 350 students from the government schools of Tirunelveli. On December 18th and 19th, interviews were conducted for the 70 shortlisted students, based on their performance in the preliminary objective test. The classes are scheduled to start soon, in early 2022.

PRAKRUTI CLUB ACTIVITIES

From feeding stray animals on streets to providing medical support to these animals, Prakriti Club's activities for the past months have focused on animal welfare.

At the meetings held between coordinators of the club, the work involved in feeding the dogs, starting from collecting the food, timings, mode of transport, splitting the campus area, route to be followed, and budget were discussed.

With a brief medical team formed by the club, medical assistance was given to dogs found to be sick and were taken to the Govt Veterinary Hospital in Thiruverumbur and Palakkarai. The medical team is tasked with medicating dogs with skin infections twice a week (Wednesday and Saturday) and other ailments.

At more than 30 locations around the campus, concrete trays were set up to hold water for dogs and birds to quench the thirst of these animals in the upcoming hot seasons.



Mr. Arjun Shan, alumnus of NITT and a wildlife rescuer organized a guest lecture on the 'Snakes and Rescue' to dispel the myths on snakes, to state the facts on these reptiles present in the campus and to provide a basic knowledge of first aid in the event of a snake bite. The guest lecture was attended by around 65 students that happened via Google Meet.

Film Society of NIT Trichy



The Film society of NIT Trichy aims at spreading film culture across the institution. Its main motto is to make and appreciate making of short films.

During Nov-Dec 2021, Film Society collaborated with the Orientation Team to conduct an event named 'Ploternate'. The core idea behind this event was to put a creative spin on the plots of iconic Hollywood films. The event consisted of two phases, the first being open to all students of the new batch, while the top six teams from the first phase made it to the second round.

Phase two pitted the top six teams against each other in coming up with an alternate plot given to each team two hours prior to a livestream, where each team had to narrate their plots. It was a great opportunity for the club to present itself to the incoming batch as well as for the fresher's to showcase their creativity and talents.

Music Troupe NITT

Music Troupe, the Music club of NIT Trichy is a bunch of music enthusiasts who come together to jam tunes, be it indie, country, electronic, indian folk, jazz or metal. Music Troupe represents NITT in inter-college music events. With an instagram page, Music Troupe routinely posts cover songs, its own music compositions, and hosts competitions. It judges the musical events hosted by other NITT Teams like Archcult and Aaveg.

November- December

Social Media: In collaboration with Pixelbug, Music Troupe recorded a special rendition of the then trending song "Enjoy Enjaami" by Dhee and Arivu composed by Santosh Narayanan. With performance by 5 vocalists and 5 instrumentalists, the troupe made an amazing rendition as delightful as the original one to vibe to.



Tamil Mandram



Vidhai is the intra college Tamil Literary festival of NIT Trichy, organized by Tamil Mandram NIT Trichy in the odd semester of the academic year. Vidhai 2021, was launched on 28th Oct 2021, had an exciting line up of 5 events named Then Tamizh Aaraam, Pesu..Nee than thairiyamaana aal aache, Kadhaippoma, Tamizh kalanjiyam and Thirai niral with submission events spanning the last week of October and the first week of November and live events planned in the first weekend of November.

A Tamizh quiz series titled Vina Vidai 2021 was live on our Instagram Handle stories from 28th Oct to 5th Nov, with one question live everyday evening, This received an active participation of around 500. On the auspicious occasion of Deepavali(4th Nov) , Tamil Mandram's website was launched.

Tamil Lits - Festember'21:

Tamil Lits is one of the most crowd pulling cluster of events for Festember every year, conducted by the Tamil Mandram. The club conducted five events as part of the Tamil Lits cluster of Events of Festember'21. Tamil Lits Cluster of Festember'21 saw an overwhelming registrations of 1446 students from the colleges all over Tamil Nadu. Five events named Kavithidal, Kuraloviyam, Uyarthani semmozhi, Kodambakkam and Sagalagala Vallavan were conducted on the occasion of Festember with cash prizes upto Rs. 15,000 waiting to be awarded to winners.

AAYAAM – The Hindi Cell of NITT

Aayam – The Hindi Cell of NITT organized a photography event based on Diwali theme, judged by our prestigious Alumni Shree Abhishek Palraj founder of “Zerography”. Nearly 50 students participated from all over India, from who top 5 will be awarded.

Aayam also launched its much awaited website (www.aayaamnitt.club) which contains the event, members, alumni and induction process details for public access.

Aayam started their Inductions for MCA 1st year and M.Sc. 1st year.

The Hindi Club is also currently working passionately towards its Biannual Magazine - Pratibimb. With the support of its design, content and media team, Aayam expects to publish its first copy by the month of march 2022.

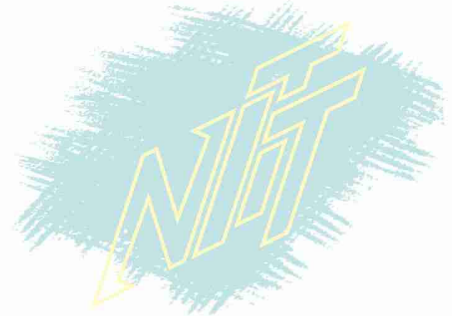


Festember'21 X Aayaam:

On the occasion and collaboration of Festember 21 with Aayam, the club organized interesting events worth Rs. 10,000 of rewards to the winner. Two events, named Name the Tune and Chakravayuh, witnessed large numbers of students participating in 175 teams, across India.

Felicitation of winners:

Umang, The Creative speech contest winners were awarded prizes worth Rs. 12,591 as goodies which were distributed to winners who were across the campus.



NITTSAC



Zennith

In an effort to recognize some of the prestigious alumni of our institution, ZenNITTH – a periodic social media update was initiated. These social media posts contain a short synopsis of the alumni’s journey from the institution over the years.

During the months of November and December, four of our alumni were recognized as such. The motive of ZenNITTH is to shed light on some of the achievers that our institution has contributed to the society and to inspire young minds as well to reach new heights.

1. Mrs. Sapna Behar: Partner and Founder-Director at IcarusNova Pvt. Ltd. (Batch of '90 Chemical Engineering), DAA 2020 (Excellence in Entrepreneurial Venture)
2. Mr. Kadiresan Annamalai: Senior Marketing Director at Diodes Inc. (Batch of '76 ECE), DAA 2020 (Excellence in Corporate/Industry)

3. Mr. Sivasankar Jayagopal: Founder and Chairman of WinVinaya Foundation. (Batch of '91 CSE), DAA 2020 (Excellence in Service to Society 2020)

4. Mr. Rajesh Gopinathan: CEO at Tata Consultancy Services. (Batch of '94 EEE), DAA 2020

Hangouts

Hangouts, NITTSAC's new initiative is a talk show-like program meant to encourage casual conversations with alumni was conceived in the month of November, with the show's first pilot session held on 28th November 2021.

Alumni guests for the pilot session were:

1. Vijay Vinod: Analyst, Bain & Company (Batch of 2021, EEE)

2. Adithyaa Sriram: Associate Consultant, Bain & Company (Batch of 2021, ICE)

3. Achyut Ramkumar: Product Supply Manager, P&G (Batch of 2021, ICE)

The session had a large audience consisting of both UG and MBA students who interacted with the guests over a range of topics. Participants enjoyed the idea behind Hangouts and showed interest in participating in more such sessions.

Industry Insider

Episode 2 of the Industry Insider was held on 28th November 2021 covering the IT Services sector by Mr. Ramanathan Arunachalam, Batch of 1998, Chemical Engineering. The event saw an increased participation among the 1st year students and was well-received.

Industry Insider is a series of sessions produced once in a month or two, hosted by our alumni who are seasoned professionals in various sectors like pharmaceuticals, technology, engineering, space, commerce, finance and food. The aim of Industry Insider is to provide an insight into the inner workings of the industries and help students to equip better and navigate the opportunities and challenges.

Technical Club Activities

With the second year students coming back to the college and the beginning of the first-years orientation, technical clubs in the institution are now active in full swing.

The Technical Council organized a number of activities for the students to take up facilities at their disposal. The council organized a blockchain-based hackathon named YBlockchain. In association with NITTSAC, it produced one episode of Industry Insider, bringing in an IT professional. The Council also organized a sensitisation session with three major bodies of the campus for the students to take up facilities at their disposal. The Council compiled and released a GitHub cheatsheet to promote open source and GSOC sessions.

The **Delta** winter of Code commenced with projects being opened and proposals being submitted. Approved proposals were allowed to be submitted in code.

Spider R&D set up the Orientation App for the fresher's and also partnered with NITK and NITW student clubs to conduct the Tri-NIT hackathon.

PSI Racing conducted the preliminary round of the BAJA event, and the amazing teams at PSI delivered their best. This included virtual simulations of the car. Results of the same are yet to be announced.

3D Aero participated in the Flipkart challenge for designing and prototyping autonomous delivery robots. The Aero Community Discord channel was created as a place for like-minded peers to interact with each other. RMI, DC and BHive started working on their various Sangam Projects, with the preliminary review deadline set in January. ProfNITT and Sigma took a deep dive into explaining complex financial information like NFTs, IPO valuation and much more through simplified graphical Instagram posts.

ALUMNI

25 years Reunion

Class of 1996 comes back together again on their 25th year.



The alumnus of National Institute of Technology – Tiruchirappalli, batch of 1996 came back together for a 25th year Reunion on Friday, December 17 – 2021 at the Barn Hall of the Admin Building. The former students of the institute, about 200+ of them who came to know about the event came to their campus in Tiruchirappalli all the way from their homes, across the world while some of them joined to witness the reunion through online.

Former students of the institute from various departments of Engineering and Technology were present in the reunion. The 25 years Reunion is an effort by the NITT to bring back the old students to the campus once again, to maintain in strong connection and bond with its students, done by the Recal Office. The Reunion began with an addressing session with the presence of Director in-charge Dr. G. Kannabiran, Deputy Director Dr. M. Umapathy and Dean of Institute Development and Alumni Relations Dr. Subbaiyan on stage.

As the Dean of Institute Development and Alumni Relations Dr. Subbaiyan welcomed the former students with a warm welcome and a heartfelt gratitude for the alumnus for keeping in touch with their institute. He said since the year the students graduated, the institute has gone through tectonic amounts of changes and expressed his disappointment that these former students might not be just free to witness all the changes that the institute has gone through all these years, due to COVID restrictions.

Dr. G Subbaiyan thanked the President of Recal Mr. Mahalingam for his efforts in coordinating the activities of the office for the past two years. He further thanked one of the senior most respectable faculty members Mr. Anantharaman of Department of Chemical Engineering who has been a part of NIT Tiruchirappalli for more than 25 years. Mr. Anantharaman was one of the few professors who taught the students of 1996. The former students were very pleased to find him on the campus on the event.

Followed by the welcome address, Ms. Maragadhavalli fondly called as “Maggi” by her batch mates addressed the gathering and took the opportunity to recap and shed light on some of the notable alumnus with distinguished achievements of the batch of 1996. Many of the alumni she proudly showcased including herself were indeed distinguished achievers in their own field.

Then the President of Recal, Mr. Mahalingam, popularly known as “Maari” among the batch addressed the gathering. Mr. Mahalingam is a successful businessman, serial entrepreneur and an angel investor being the parent for various successful businesses in his portfolio. He spoke about his responsibility as the President of Recal and how it kept him energetic to keep going further and further in his life for everything.



Mahalingam spoke about the various successful activities that Recal Office has always been able to do, with the participation of the NIT's alumnus. He requested the energetic alumnus to channel some amount of their energy into the Recal as well, to accomplish much more in favour of the students of NIT.

The Director in-charge Dr. G. Kannabiran in his address shared his own fond memories in the institution back in 1996 as he took charge as the Head of Department of Management. He expressed his happiness in seeing the alumnus for what they have achieved in their life. He also stated his goals for the institution while his tenure as a director at NITT.

Since the time NIT - Tiruchirppalli secured the spot as the top NIT in India, the institution has been working hard in maintaining its position. And, one such key aspect that had always held our institution in the top is, perception and branding. So, to maintain this he asked the alumnus of the institute to take up on the role of brand ambassador in their own right.

Apart from this, he also spoke about the new challenges that the institution is now facing in regards with the changing times.

For Deputy Director Dr. M. Umpathy, it is his 25th year in NIT as well. In his address, he thanked the sincere efforts of Recal office for their efforts during the pandemic. And, he took the opportunity to thank former director Mini Shaji Thomas for her contributions during her tenure. Then Recal Vice President Mr. Elangovan addressed the gathering, to express his amazement and thanked the alumnus for taking time to reconnect with old friends amidst their busy schedule.

Professors, Directors and the key alumnus were gifted mementos in memory of the 25th year Reunion. Then Mr. Jayadeep delivered the Vote of Thanks, once again thanking the alumnus for attending the event either online or offline. He thanked the professors, the supporting staff and various others who have been an important part of their life in National Institute of Technology.

Followed by the session, the alumnus was taken on a bus tour across the campus stopping by at each place to recollect their memories. Then, a photoshoot in front of the Admin building was set up to bring the reunion to a sweet end.



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