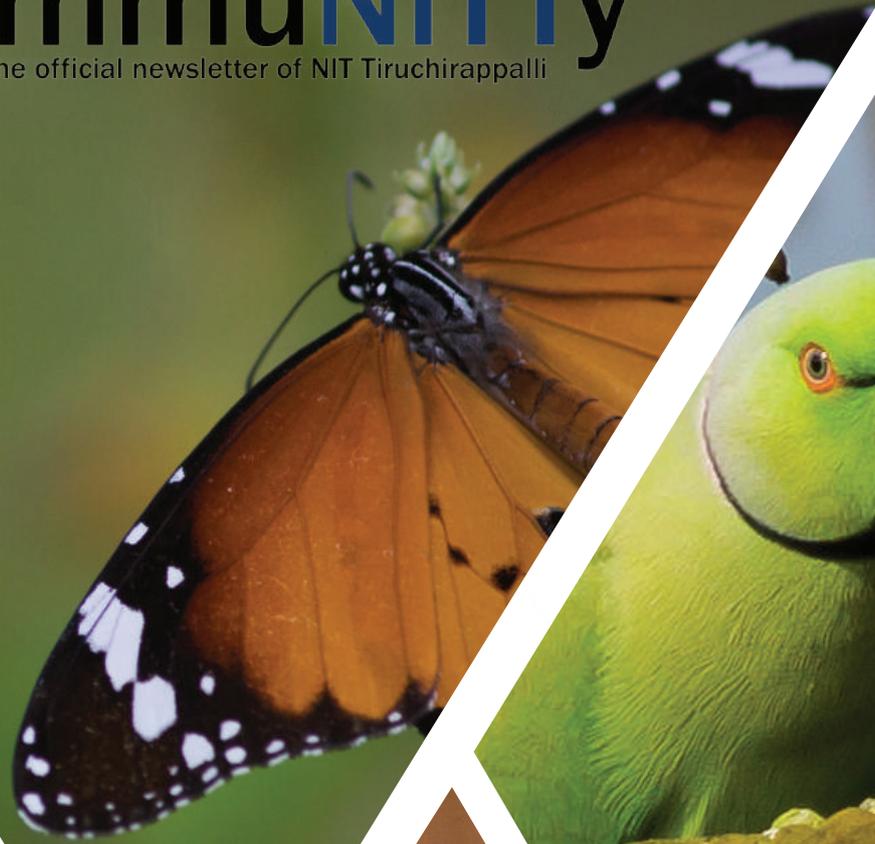




# commuNITy

The official newsletter of NIT Tiruchirappalli



Volume 2

Issue 6



**Birds &  
Butterflies**

# Director's Message

---



## Greetings.

I am delighted that the editorial team has set the theme for this issue of commuNITTy ***Birds and Butterflies***.

Many initiatives have been taken over the years to plant lot of trees in the campus. Recently, we launched 'own your tree' scheme for the freshers. Students were encouraged to plant trees in the first year and keep nurturing it till they leave the campus in the fourth year. A green cover has been assiduously cultivated here. The building up of four way highway infrastructure had resulted in felling of huge trees outside the campus. Since then birds nesting in such trees have been flocking to NIT, Trichy and have been breeding inside the campus. Chirping birds are a music to the ears of the campus-residents early in the morning. This issue presents few of the Avian creatures nesting in our campus.

This issue also brings out the opening of Third i an extension of our computer centre and some of our outreach activities.



# CONTENTS



## Institute

1. Inauguration of Third i	1
2. International Conference on Secure Reconfigurable Architectures & Intelligent Computing	2
3. International Mechanical Engineering Congress	3
4. International Workshop and Conference on Mathematical Analysis and Computation	4
5. International Conference on Instrumentation and Control Engineering (ICECON-2019)	5
6. Indo-Brazilian collaborative SPARC sponsored workshop	5
7. National Power Electronics Conference	6
8. National Conference on Mathematical Analysis and Applications	7
9. Research Colloquium on Business & Social Sciences	7
10. Workshop on Structural Equation Modelling: Basic & Advanced Analysis	8
11. Workshop on Using SPSS for Quantitative Analysis in the Management & Social Sciences	8
12. Workshop On Intellectual Property Rights, Technology Development And Startup (IPRTDS)	9
13. Workshop On Research Induced Stress and Coping Mechanism for Ph.D. Scholars In Architecture	10
14. Workshop on Combustion Generated Pollution Control	10
15. Workshop on Cloud and Edge computing for Big Data analytics	10
16. Workshop on Recent Trends in Cold Storage System	11
17. NISADYA'19	
18. NIT-Tiruchirappalli Alumni StartupTrawello Healthcare to be incubated at CEDI-NIT-T	12
19. Blood Donation camp	12

## Research & consultancy

20. Sponsored Research Projects	13
21. Consultancy work undertaken	14

## Students

22. Interactive Session with Dr. Magyar Peter, Director for Chapter Development, IEEE IAS	15
23. IEEE Student Branch - Social Gathering and Networking	15

## Alumni

24. NIT- Tiruchirappalli Alumni to give USD 3 Million for Research and Development	16
--	----

## Published by

### Public Relations and Media TEAM

**Dr.S.Arul Daniel**  
Professor, EEE

**Dr.Vinod Balakrishnan**  
Professor, Humanities

**Dr. N. Sivakumaran**  
Professor, ICE

**Dr.K.N.Sheeba**  
Associate Professor  
Chemical Engineering

**Dr.Nisha Radhakrishnan**  
Associate Professor  
Civil Engineering

**Dr.G.Muruganatham**  
Associate Professor,  
DOMS

**Dr.S.Mekala**  
Associate Professor  
Humanities &  
Social Sciences

**Dr.B.Janet**  
Assistant Professor, CA

**Shri K.Pradeep**  
Technical Officer, CSG

**Dr. Sateesh Kumar**  
Assistant Professor,  
Production Engineering

**Dr. Josephine R L**  
Assistant Professor, EEE

#### Content Team

B. Vamsi Krishna Reddy, Mechanical Engineering  
R. Harishwar, Chemical Engineering  
Svesha Venkateswaran, Production Engineering  
Vasanthraj Kirubhakaran, Department of ECE  
Sivasri Maganti, Department of MME

#### Design Team

V. Sathwik Kumar - Department of Civil Engineering  
Abhishek Surada- Department of Civil Engineering  
Varsha Bonam- Department of ICE

#### Office of PR & Media

Ms. T.R.Priya



## Inauguration of Third i



The institute's new computer centre, named "Third i" has been inaugurated by Padma Bhushan Sri Kris Gopalakrishnan, Co-founder & Former Executive Vice-President, Infosys and current Chairman, Axilor Ventures in the presence of Dr. Mini Shaji Thomas, Director, National Institute of Technology Tiruchirappalli on 11<sup>th</sup> November 2019. The Third i, which is the third computer centre of the institute, is housed in the new annexure building of the main computer centre Octagon. "Third i" will house 4 big labs, each lab with 132 numbers of high-end All-In-One

computers (totally 528 high-end computer systems), a conference hall, two seminar halls, a meeting room, a server room, UPS room, maintenance rooms, staff rooms, etc. These labs will be open 24 x 7 and would be used by B.Tech., M.Tech. students, M.S., and PhD research scholars for their regular laboratory classes, to supplement the classroom lectures, and to carry out their projects, and to develop their professional skills. "Third i" would evoke several positive moods and vibrations about knowledge (in Sanskrit "gnana netram") and next generation's "i" deas, "i" intelligence, "i" information, "i" internet and so on.

The OCTAGON – was the first Computer Center opened in 1990-91 is the sterling hallmark of this campus. This centre serves the campus-wide LAN to about 7500 users across the campus (using both wired and wireless networks). It has a 10 Gbps fibre optic backbone interconnecting the departments/buildings. It also acts as a resource centre to supplement classroom instructions with laboratory sessions. The Octagon has the central computing facilities, including a server room with 40+ high-end servers and 6 laboratories with totally 200 high-end computers. Also, the Octagon accommodates a Library, a Printer Room, and Centralized A/C Units. The LAN has been designed with a Full-duplex Gigabit Ethernet backbone offering an aggregate bandwidth of 10 Gbps between different Switches using Single-mode fiber.

The TwinNet was the second Computer Center opened in 2006 and it has two labs each with 99 computer systems (with totally 198 computers). It is used exclusively by the students for their C, C++ Programming, and Engineering drawing courses.



### Brahminy Starling

Found all over the campus with a contrasting mantle and back neck feathers, they are highly vocal during the breeding season.



# International Conference on Secure Reconfigurable Architectures & Intelligent Computing



The 1<sup>st</sup> International Conference on Secure Reconfigurable Architectures & Intelligent Computing (SRAIC), organized by the Department of Computer Science & Engineering, started off at NIT Tiruchirappalli from 28-30 November 2019. The conference was aimed at integrating researchers where the task of computational intelligence could be handled/transformed by reconfigurable architectures. It also aimed to handle them in a secure manner thus ensuring security in decision support tasks. The conference was sponsored by TEQIP – III and supported by IEEE computer society.

Dr.N.Ramasubramanian, Professor of the Department of CSE welcomed the gathering for the International conference. Dr.Rajeswari Sridhar indicated the achievements of the Department by quoting projects received from DST, MHRD, NPOL by the faculty members and the consultancy works undertaken by the faculty members for Fidelity and CDAC. She also mentioned about the tutorial speakers, Dr.Noor Mohammad and Mr.Sridhar Tiruchendurai from IIITDM and Born group respectively. She listed the keynote speakers Dr.Vedang Chauhan from Western New England State University, USA, Dr.V.Kamakoti of IIT Madras, Dr.Kiran from Norwegian University, Dr.Mohammad from Manchester University, Mrs. Charu Srinivasan from Microsoft, Dr.C.Balan from CDAC and Dr.Rajan Shankaran from Macquarie University, Australia.

Dr. Mini Shaji Thomas congratulated the Department for the initiatives in terms of project proposal submission, filing patents, consultancy and SPARC project. She congratulated the SRAIC conference team for being particular in choosing high-quality papers for presentation in the conference. She also indicated that the Department of CSE gets the best students and that is evident from their placements and higher studies in top-class universities. She also congratulated the students of CSE who won the runner up in the First Indo-Singapore hackathon and sixth position in the Second Indo-Singapore hackathon. She insisted that the Department should innovate more with the help of students, research scholars leading to quality publications.



## Brown Shrike

Also known as the butcher bird, brown shrikes are generally found in thorny bushes, a common sight behind Amber Hostel and have been known to defend their own feeding territory.



# International Mechanical Engineering Congress



The second edition of the three-day International Mechanical Engineering Congress (IMEC) has been inaugurated at the National Institute of Technology, Tiruchirappalli on 29<sup>th</sup> November 2019. The theme for this year's event was 'Sustainable Development and Advancements in Mechanical Engineering'.

The event which concluded on 1<sup>st</sup> December 2019, provided a common platform to researchers, industry personnel, academicians, students and professionals across the globe to interact and share their knowledge and

experience in sustainable development in the field.

Director Dr Mini Shaji Thomas, who is also the Patron of IMEC 2019, welcomed the delegates and guests from different parts of the world to the conference. During her presidential address at the inaugural ceremony, she pointed out that it is time for inter-disciplinary research and collaboration in order to progress and to have a better understanding of what is happening globally. She also addressed about the importance of sustainable development for the betterment of mankind and expressed her desire to enable collaboration, not only within the Departments of the institute but also nationally and internationally for promoting state-of-the-art research.

The Chief Guest of the event, Prof. Amaro Olimpio Pereira from Federal University of Rio de Janeiro, Brazil addressed the gathering and gave inputs to the audience on the topic of waste to energy conversion technologies. He mentioned that controlling the global warming effect is the need of the hour. Prof. Pereira further went on to emphasize the need for engineers to be a part of policymaking with respect to sustainable development in all the countries. The guest of honour of the event, Prof. Bengt Johansson from the King Abdullah University of Science and Technology (KAUST), Saudi Arabia, addressed the gathering and talked about the importance of increasing the efficiency of modern-day combustion engines. Prof. Johansson mentioned that sustainable technology development has to happen regionally and locally to best suit the geographic and climatic conditions. The audience of the event were also addressed by Dr Sivasankaran Harish from Kyushu University, Japan. He extensively talked about the need to increase international collaboration for better research and quality products for mankind. The conference featured keynote lectures by experts from leading institutions, research organizations and industries. The speakers included Prof. Amaro Olimpio Pereira, Federal University of Rio de Janeiro, Brazil, Prof. Bengt Johansson, King Abdullah University of Science and Technology, Saudi Arabia, Dr. Sivasankaran Harish, Kyushu University, Japan, Prof. Janakarajan Ramkumar, Indian Institute of Technology, Kanpur, Dr. Pranab K Mondal, Indian Institute of Technology, Guwahati and Prof. A. Arockiarajan, Indian Institute of Technology, Madras.



## Black Drongo

Informally known as the 'King Crow', drongos are known for their aggressive behaviour towards larger birds. Found all around the campus and mostly feeds on insects.



# International Workshop and Conference on Mathematical Analysis and Computation 4



In continuation to International conference on Analysis and Applied Mathematics (ICAAM–2018), Dept. of Mathematics, organized the 5<sup>th</sup> International Workshop and Conference on Mathematical Analysis and Computation (IWCMAC– 2019) during December 02–06, 2019. The conference was inaugurated by the Director, Dr. Mini Shaji Thomas, on 2<sup>nd</sup> December, 2019. The head of the Department Dr. Saikrishnan gave the welcome address followed by

Dr. T.N.Janakiraman, Chairman of IWCMAC, who briefed about the conference. Dr. R.Tamil Selvi secretary, IWCMAC introduced the chief guest, Dr. Niall Madden, Faculty of Mathematics, National University of Ireland, Galway. The proceedings of the conference was released on the inaugural day by the Director and Professor Niall Madden, the chief guest received the first copy of the proceeding.

The Technical sessions began with the invited talk by Dr. Santhosh George, Professor, NITK, Surathkal on the topic fractional Tikhonov regularization method, followed by the invited talk of Professor Niall Madden. He described the features about the FOSLS on differential equations. Dr. Rajeswari Seshadri, Professor, Department of Mathematics, Pondicherry University spoke on efficient numerical solution of HIV infection and its remedial multidrug therapies using spectral collocation method followed by Dr. G.S.Raju, IIT–Ropar on the title “Existence of best proximity and a generalization of caratheodory theorem”.



## Oriental Magpie Robin

The National Bird of Bangladesh, these are sexually dimorphic. They can be commonly found near the Staff Quarters Area.

Further the legend of graph theory Dr. Balakrishnan gave his lecture on “The Alon–Tarsi number of a graph”. Dr. P.S. Srinivasan, Associate Professor, Department of Mathematics, Bharathidasan University, described Best approximation and best proximity pairs. Dr. A. Muthusamy, Professor, Periyar University, Salem addressed the audience on the topic “Multi decomposition of complete multi partite graphs”. Dr.E.Natrajan, Associate Professor, IISST, Tirvananthapuram, Kerala explained on “Virtual element method for the nonlinear convection diffusion reaction equation”.

Other speakers were Dr. S.Natesan, Professor, IIT–Guwahathi, Dr.Niall Madden, National university of Ireland, Galway, Dr. S.Janakiraman, CDAC, Bangalore, , Dr.C. Durairajan, Bharathidasan University, Dr. A.Senthil Thilak, NITK, Suratkal and

Dr. A.Subburayan, SRM, Chennai, Dr. V.P.Ramesh, CUTN, followed by Dr. S.Gowrisankar, NIT–Patna and Dr. A.S.Vasudevamurthy

Around 70 participants were benefited by this program. Researchers from NIT–Silcar, Andra Pradesh, Guwahati, Madura, Karnataka, Kerala, Telangana and Tamil Nadu presented their papers which were released as proceedings of the conference. Some of the selected papers were sent to MESA journal for possible publication. IWCMAC was sponsored by SERB and INSA.



# International Conference on Instrumentation and Control Engineering (ICECON-2019) 5



The International Conference on Instrumentation and Control Engineering (ICECON-2019) was aimed at emphasizing the need for channelizing the research efforts from various streams like sensors and actuators, robotics, biomedical instrumentation, process control, artificial intelligence, etc. for bringing technological advancements, addressing and providing solutions to key engineering issues. The conference included keynote sessions by the professors from world-class universities, research paper presentations and workshops. The workshops were planned for the first day, in the areas of

deep learning, cybersecurity and biosignal processing. Eminent academicians Dr. PSV Nataraj, Professor, Systems and Control Engineering, IIT Bombay, Mumbai, Dr Deepak Joshi, Assistant Professor, IIT Delhi and industry personals Mr. Prashant & Ms. Priya from Global Cybersecurity Lab of Schneider Electric have shared their experience and expertise. After meticulous peer-review process about 60% of the papers in emerging areas in Control and Instrumentation Engineering were presented in the conference.

The conference was inaugurated on 19<sup>th</sup> December 2019, NIT-Tiruchirappalli by the Chief guest Prof. Paluri S.V. Nataraj from IIT Bombay in the presence of Director Prof. Mini Shaji Thomas, Dr Umapathy, senior professor and Prof. Uma, HOD of Instrumentation and Control Engineering. Director Prof. Mini Shaji Thomas congratulated the Department faculties for initiating the postgraduate course on Industrial Automation from July 2020. Also, she insisted the faculties, participants from other institutions and industries to actively interact to bring more national and international research collaborations. The chief guest in his inspiring talk, has suggested to make autonomous learning, modelling of a physical system and better solutions for the complex non-linear control system using artificial intelligence. In addition, he also highlighted the importance of ICE in predictive and prescriptive maintenance of the industrial system. Followed by inaugural address, the chief guest has felicitated eminent academicians in the field of ICE, Dr S. Renganathan (Former Dean, MIT Chrompet, Chennai, Founder Chairman & director, RRASE College of Engineering, Chennai), Dr P. Kanagasabapathy (Professor Emeritus & Former Dean, MIT Chrompet, Chennai) and Dr S. Dharmalingam (Former General Manager, Bharath Heavy Electricals, Ltd., Trichy).



**Red Vented bulbul**

Characterized by its red vent, they are known for their aggressive and invasive nature in places where they have been introduced. They play a key role in dispersing plant seeds

## Indo- Brazilian collaborative SPARC Sponsored Workshop

The Department of Mechanical & Chemical Engineering conducted a two-weeks workshop on Recent Technologies on Waste to Energy Conversion during December 2<sup>nd</sup> – 13<sup>th</sup>, 2019. Prof.K.M. Meera Sheriffa Begum, co-ordinator of the workshop welcomed the gathering. Prof. Mini Shaji Thomas, Director of the institute formally inaugurated the Workshop. Prof. Amaro Olimpio Pereira Junior, Brazil was the chief guest of the function. Prof.R.Anand co-ordinator of the workshop proposed the vote of thanks. Prof S. Raman Sankara Narayanan (Dean ID) and Prof.Sivapirakasam (HoD/Mech) were also present.



Ten speakers from various parts of India gave invited talks on topics related to recent technologies of waste to energy conversion. Prof. Amaro Pereira lectured on the Energy Resource, Economics and Environment and Prof.R.Anand briefed about the recent oil extraction techniques for biodiesel production from non-edible seeds. Prof. Meera Sheriffa Begum lectured on the enhancement of biodiesel production using the waste shell as Catalyst. Prof.Anatharaman elaborated on fuels from waste and agro-residues. Prof. Sendhilkumar shared his experience on design of parabolic solar collector. Prof. S. Iniyan lectured on the production of biofuel from various wastes. Prof. Premalatha enlightened about algae as a solution for CO<sub>2</sub> sequestration & algae as a solution for wastewater problems. Prof. Ruben Sudhakar discussed on the research needs and challenges in thermochemical conversion of waste to energy related to combustion and gasification technologies. Prof. P. Karthikeyan lectured on applications of Fuel cell. Prof. Samsudeen discussed on Bioelectrochemical system for Waste/Wastewater to Bioenergy conversion. The two weeks workshop was supported by Scheme for Promotion of Academic and Research Collaboration (SPARC), Ministry of Human Resource Development, Government of India.



The inauguration of the event – the 9<sup>th</sup> National Power Electronics Conference (NPEC – 2019) organized by the Department of Electrical and Electronics Engineering, NIT-Tiruchirappalli was held on 13<sup>th</sup> December 2019, Friday. Dr. Ing-peter Magyar, Director, Chapter Development, Industry Applications Society, IEEE USA was the Chief Guest. Dr. M. Umapathy, Dean R&C, presided. Dr. N. Kumaresan, Professor, Department of Electrical and Electronics Engineering, NIT- Tiruchirappalli, Convenor & General Secretary, NPEC 2019 welcomed and gave a brief introduction to NIT- Tiruchirappalli. The pillar of NPEC 2019, Prof. G Narayanan, Department of Electrical Engineering, IISc Bangalore and Advisory Member, NPEC Core steering committee spoke on the key purpose of NPEC. Powered by a delegate strength of more than 100 students and faculty members from India and abroad, 18 speakers were invited to present 5 tutorials, 4 keynote addresses, and 3 pedagogy talks, adhering to the theme of the conference. A research and academic conclave is also featured as part of NPEC 2019 to exhibit the work of researchers.



**Scaly Breasted Munia**

The highly social and beautiful species are regarded as an agricultural pest.

The Head of the Department and Professor, Dr. S. Sudha, presented the achievements of the Department. Dr. C. Nagamani, Senior Professor of the Department presented the achievements of NIT- Tiruchirappalli and the key infrastructure in the campus. Dr. M. Umapathy delivered the Presidential Address. He also appreciated the commitment of the Department and its contribution to Power Engineering by organising two key national conferences back-to-back, one in 2018, and 2019. Dr. N Ammasai Gounden, senior Professor in the Department and General Chair , NPEC 2019 felicitated the Chief Guest and highlighted the two-year journey in organizing NPEC at NIT- Tiruchirappalli.

Dr. Ing.- Peter Magyar delivered the Inaugural Address, and released the conference souvenir, thus officially inaugurating the conference. In his address, he spoke on the benefits of an IEEE Industrial Applications Society membership. The society contributes to solutions and advances in applications of electrical and electronics engineering in the industry. IAS Membership from IEEE Region 10, which includes India, accounts for more than 50 percent of the society membership. Globally, India has the largest number of IAS student chapters as well, which is more than all the student chapters out together in the Western IEEE regions. He highlighted the "Club of 6" scheme, which encourages students to organize technical paper conference of IEEE standards.

Dr. Peter appreciated the IEEE Student Branch of the institute for officially inaugurating the IEEE IAS Student Chapter of NIT- Tiruchirappalli recently.

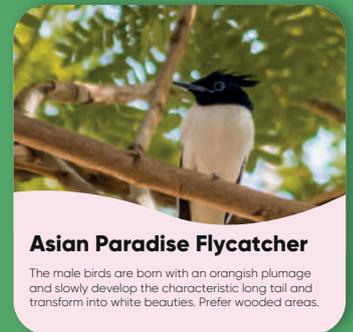


# National Conference on Mathematical Analysis and Applications 7



The Department of Mathematics conducted two-days National Conference on Mathematical Analysis and Applications during December 19-20, 2019. Prof. K. Murugesan, Chairman of the conference welcomed the gathering. Prof. Mini Shaji Thomas, Director of the institute formally inaugurated the conference. Prof. M. Lakshmanan, Bharathidasan University and Dr. Lee See Keong, Universiti Sains Malaysia were the chief-guests of the function. Dr. R. Tamil Selvi, Secretary of the conference proposed vote of thanks. Prof. P. Saikrishnan (secretary) and Prof. V. Ravichandran (convenor) were also present.

Eleven speakers from various parts of India gave invited talks on topics in analysis and applied mathematics. Prof. M. Lakshmanan lectured on the dynamics of a class of nonlinear nonstandard type Lagrangian / Hamiltonian. Prof. K. Balachandran spoke on the controllability and stability of fractional dynamical systems. Prof. Tanmay Basak talked about finite element analysis of multiple steady flow and thermal fields with bifurcations during natural convection within cavities. Prof. P. Vellaisamy addressed about the analysis of intersections of trajectories of systems of linear fractional differential equations. Dr. Lakh veer Kaur elaborated on bilinearization and analytic solutions of some partial differential equations. There were six invited talks on GFT: Prof. S. Sivasubramanian spoke about starlike functions with respect to a boundary point and Prof. Anbhu Swaminathan discussed about stable functions and Vietoris Theorem. Dr. See Keong Lee highlighted about a class of univalent functions. Dr. Naveen Kumar Jain and Dr. Kanika Khatter shared on radius problems while Dr. S.B. Joshi on harmonic univalent functions. There were 40 participants. Twenty of them presented their papers in the conference, a good number of them in geometric function theory. The conference was supported by Science and Engineering Research Board (SERB), Department of Science and Technology, Gol and Tamil Nadu State Council for Science and Technology, Department of Higher Education, Government of Tamil Nadu.



**Asian Paradise Flycatcher**

The male birds are born with an orangish plumage and slowly develop the characteristic long tail and transform into white beauties. Prefer wooded areas.

## Research Colloquium on Business & Social Sciences



A Five-day workshop on "Research Colloquium on Business & Social Sciences" was organized by Dr. N. Thamaraiselvan, Dr. S. Mekala, Dr. G. Subbaiyan and Dr. P. Gopalakrishnan from 29<sup>th</sup> - 3<sup>rd</sup> December 2019 at National Institute of Technology- Tiruchirappalli.

The eminent resource persons have enlightened the participants with the myth and realities of Ph.D., process of selecting the area of research and role of research in knowledge creation. The experts have elucidated the planning, execution and delivery phase in the research. Interactive sessions with experts facilitated the participants to understand the E-resources, Research methodology, and software useful for researchers. The Professors from renowned institutes have illuminated participants on Hypothesis

Testing, Conceptual Model Development, and art of writing empirical research paper.

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

# Workshop on Structural Equation Modelling: Basic & Advanced Analysis



A five-day workshop on “Structural Equation Modelling: Basic & Advanced Analysis” was organized by Dr. G. Subbaiyan, Dr. N. Thamaraiselvan, Dr. S. Mekala, and Dr. P. Gopalakrishnan from 2<sup>nd</sup> – 6<sup>th</sup> December 2019 at National Institute of Technology- Tiruchirappalli.

The eminent academicians invigorated the participants about SEM software and its models that encompass contemporaneous statistical methods used in the social and behavioral sciences. The experts encapsulated the exploratory factor analysis and

confirmatory factor analysis using AMOS. Interactive sessions with the experts facilitated the participants to understand the process of theory developments using Mediation, moderation, moderated mediation and mediated moderation approaches. The participants stated that they gained clarity in their research avenues through this workshop. They proclaimed that the resource persons have inspired them on the conceptual framework and analysis of their data using AMOS. They have expressed their gratitude to the coordinators for organizing this workshop and have corroborated the resourcefulness of the programme.



## Indian Golden Oriole

This shy species, known for its attractive yellow plumage are usually found in the treetops near Staff Quarters.

# Workshop on Using SPSS for Quantitative Analysis in the Management & Social Sciences



A five-day workshop on “Using SPSS for Quantitative Analysis in the Management & Social Sciences” was organized by Dr. S. Mekala, Dr. G. Subbaiyan, Dr. P. Gopalakrishnan, and Dr. N. Thamaraiselvan from 7<sup>th</sup> – 11<sup>th</sup> December 2019 at National Institute of Technology- Tiruchirappalli.

The workshop created awareness among the participants regarding the usage of statistical software and tools. The workshop imparted training in the field of Data analysis

using SPSS. The eminent resource persons made the participants learn to store, manipulate and analyze data using the latest version of SPSS. He bestowed hands-on training on Chi-square, T-tests, ANOVA, Correlation, Cluster analysis, and Factor analysis. He also conferred Univariate, Bivariate and Multivariate analysis using SPSS. He elaborated the in-depth analysis like Binary Logistic Regression, Dummy regression, Reliability Log Linear, Automatic regression and Conjoint Analysis. He also elucidated on Normality, Communality, Homogeneity, and Multi collinearity. The participants in their feedback affirmed that the usage of SPSS for data analysis was enlightened by the resource person. The participants appreciated the coordinators for the ingenuity and successful conduct of five-day workshop on Using SPSS for Quantitative Analysis in the Management and Social Sciences.

# Workshop On Intellectual Property Rights, Technology Development And Startup (IPRTDS)



Intellectual Property Rights (IPR) Cell, National Institute of Technology –Tiruchirappalli organized a five-day TEQIP –III funded workshop on Intellectual Property Rights, Technology Development and Startup (IPRTDS) from 9–13<sup>th</sup> December 2019. IPRTDS was inaugurated on 09 Dec'19 by Dr. Mini Shaji Thomas, Director, NIT-Tiruchirappalli, Dr. Umapathy, Dean – Research & Consultancy, NIT-Tiruchirappalli, Dr. S. Muthukumaran, Head, IPR cell and in the presence of our esteemed chief guest Prof. Amaro Olimpio Pereira, Federal University of Rio De Janerio, Brazil. Dr. Mini Thomas emphasized the significance of IPR in research and transfer of technology and its vitality for the development of our nation.

Dr. Umapathy welcomed the gathering for the workshop and accentuated the role of IPR cell in facilitating the patenting process in NIT-Tiruchirappalli. Dr. S. Muthukumaran, Head of IPR cell shared about wide array of IP related activities materialized in and around Tiruchirappalli and the robust Indian underpinning on various inventions. Dr. Amaro has highlighted the importance of IPR for economic development. Knitted group of NIT-Tiruchirappalli faculty members – Dr. S. Muthukumaran, Professor at Department of Metallurgical and Material Science & Head, IPR cell, Dr. Manoranjan Sahoo, Assistant Professor at Department of Electrical and Electronics Engineering, Dr. S. Nivethitha, Assistant Professor Department of Management Studies and Mr. Krishnan, Manager at Centre for Entrepreneurship Development and Incubation (CEDI) coordinated the five-day IPRTDS workshop.



## Ashy Prinia

These small and grey birds are usually found in areas with water. It makes a sound like "electric sparks" which is believed to be produced by the wings or possibly the beak.



# Workshop On Research Induced Stress and Coping Mechanism for Ph.D. Scholars in Architecture 10



Three Days workshop on research induced stress and coping mechanism for Ph.D. Scholars in Architecture was held during December 16– 18, 2019. The workshop coordinators were Dr. K.Premkumar & Prof. G.Sangeetha, Faculty of Department of Architecture.

This workshop was designed to deal with the factors that induce stress during the research tenure and provide appropriate coping mechanism to achieve overall well-being among the scholars in Architecture.

The course content of the workshop was stress management and its importance, Shift from IQ to EQ to AQ, People Environment Behavior theory, Psychological and physiological effects of Stress, The challenges faced by

research scholars and Coping mechanism.

The workshop had talks and lectures by professors and professionals, Videos- podcast, DVDs, Group discussions, presentations, site visits and progressive meditation sessions. Participants were faculty from other institutes working in Department of Architecture.

## Workshop on Combustion Generated Pollution Control



The Department of Mechanical Engineering, National Institute of Technology, Tiruchirappalli organized a five-day Industrial workshop on Combustion Generated Pollution Control from 16<sup>th</sup> to 20<sup>th</sup> December 2019. The main objective of this workshop was to enrich the students through interaction with industrial experts in the field of combustion and pollution control. The current and future trends of combustion engine, invasion of electric vehicle in automobile market, engine developments for Bharat stage VI vehicles, pollution control strategies adopted by power plants and oxy-fuel combustion technologies were the major topics discussed in the workshop. Dr. M. Udayakumar, Professor (HAG), Dr. R. Anand, & Dr. V. Arul Mozhi Selvan, Associate Professor(s) and Dr. S. Vedharaj, Assistant

Professor were the coordinators of the workshop. A total of 32 participants registered for this industrial workshop and most of them were graduate students who work in the field of combustion and pollution control. Dr. Sushil S Ramdasi, Deputy Director, PTE, Automotive Research Association of India, Pune delivered talk on "Latest trends in engine & power train design and development to meet BSVI and beyond emission norms" and EV / HEV and FCV design & development / opportunities and challenges from an Indian perspective to implement EV Technology. Dr. Sivaji, Manager, Bharat Heavy Electricals Limited, Tiruchirappalli delivered a talk on "CO<sub>2</sub> emission from power plants: Capturing and utilization". Mr. Shankar Naik. V, Manager, Bharat Heavy Electricals Limited, Tiruchirappalli delivered a talk on "In furnace and post combustion emission control technologies".

Dr N. Saravanan, Mahindra Research Valley, Chennai concluded the workshop with his lecture on "BSVI technologies adopted for emission control".



**Green Bee Eater**

With a bright green plumage, this is definitely one of the beautiful common birds found on our campus. As the name suggests, they usually feed on insects.

## Workshop on Cloud and Edge computing for Big Data analytics

The Department of Computer Science and Engineering is being granted the project under the Scheme for Promotion and Research Collaboration (SPARC) scheme of MHRD. Under this scheme a workshop titled "Cloud and Edge computing for Big Data Analytics (with a focus on healthcare)" was conducted from December 16<sup>th</sup> to 20<sup>th</sup> 2019. The SPARC project is between the Department of CSE and CA of NIT

Tiruchirappalli and Macquarie University Australia. The Foreign PI and Co-PI, Dr. Michael Sheng and Dr Rajan Shankaran and the Indian PI and Co-PI from NIT-Tiruchirappalli, Dr. Rajeswari Sridhar, Dr. Gangadharan were the primary speakers of the workshop. The other speakers included Dr. Smithamol M B from LBS college, Kasergode, Mr. Kailash from CDAC Chennai, Dr. Varun Gopi from NIT- Tiruchirappalli, Dr. K N Srinivasan, Oncologist. The workshop discussed on the architectures of Fog, Edge, Cloud Computing, their privacy issues, security aspects, authorization policies, data storage, type of medical data that could be stored, Big Data Analytics and Data management. Hands-on sessions were given on cloud architectures and Hadoop, map-reduce methods. There were 40 participants from all over south India who participated in the workshop and the workshop was well received by the participants.





National Institute of Technology in collaboration with Indian Institute of Food Processing Technology, Thanjavur (IIFPT) organized a one-day workshop on 'Recent Trends in Cold Storage System' on 18<sup>th</sup> December 2019. Mr. G Ajeethan, Managing Director, Tamil Nadu Banana producer company Ltd, Tiruchirappalli was the chief guest and Mr G Karikalan, Managing Director, Nachalur farmer's producer company Ltd. Tiruchirappalli was the guest of honour for the august occasion. The purpose of the workshop was to disseminate the technical upliftment opportunities available in order to avoid post-harvest losses to the farmers. The team had developed a 2TR prototype solar-assisted cold storage system with DST Sponsorship. The workshop was intended to address the design, operational and control aspects of prototype PCM based PSCS System.

The main aim of PSCS system is to replicate a mobile multi-commodity cold storage system to store different fruits and vegetables and reduce post-harvest losses specifically from the farmer's field to the cold storage facility, a major issue faced by Indian farmer community.

Dr Mini Shaji Thomas, Director, NIT-Tiruchirappalli addressed the gathering and mentioned the endeavor to bring farmers problem forefront. She reminded the Institute tagline 'locally relevant and globally competitive' and insisted on impact education and exposing and sensitizing students towards agricultural problems. She congratulated the investigators for taking up such an interdisciplinary project and its outreach towards the benefit of the society. Mr Ajeethan in his address mentioned it as the high time to bring the infrastructure and its benefits in agriculture and pass on to the farmers. He mentioned that the project is more helpful in completing the cold chain of the commodity until it reaches the consumers and helps in doubling the farmer's income by minimizing post-harvest losses. Mr.G. Karikalan mentioned the warehouse facilities available and highlighted the benefits of the cold storage unit. The workshop consisted of sessions briefing on the necessity of cold storage, its benefits in incorporating solar and PCM, suggestions of its usage for minimizing post-harvest losses with a demonstration of the prototype. The workshop was well attended by farmers, agriculturalist, Technocrats from Industries retailers, students, faculties, research scholars. The project team had informed that the technology is ready to be disseminated for the interested stakeholders.



## NISADYA'19



NISADYA'19, a two-day national level B-fest of the Department of Management Studies, NIT, Tiruchirappalli was held on 16<sup>th</sup> and 17<sup>th</sup> of November 2019. It was inaugurated by Dr. Mini Shaji Thomas, Director, NIT-Tiruchirappalli, Dr. P.Sridevi, Head of the Department and Chief Guests and the distinguished Alumni, Mr. Vinay Prashant, Co-founder, Tamaala and Mr. Ravin Carr, Founder and CEO, GBS India.

The Director addressed the gathering and emphasized on the relevance of the theme for Nisadya'19 - "Water, Smarter". She accentuated on Government of India's water conversation initiative "Jal Shakti Abhiyan" and stressed on the vitality of water conservation for sustainable future. Dr. P. Sridevi, enumerated the

various domain specific events of Nisadya'19 - Sankalp, Merx, Praxis, Pravaran and Vriddhi to the audience. She also highlighted the blood donation camp and sapling plantation organized as a part of Nisadya Social Initiative (NSI) drive. Mr. Vinay Prashant encouraged the students to engage in socially responsible activities to address the environmental problems and make the world a better place to live in. Mr. Ravin Carr put forth four principles to live by, where one needs to have the right attitude, purpose driven by passion and strength of character to succeed in life and career. Nisadya'19 witnessed participation of around 130 students from over 20 institutes for domain specific events, guest lecture, informal and impromptu events. The plethora of activities judged by various prominent experts from the industry concluded on 17<sup>th</sup> whereby the winners of the various events were given prizes and certificates.

# NIT-Tiruchirappalli Alumni Startup Trawello Healthcare to be incubated at CEDI-NIT-T

Centre for Entrepreneurship Development and Incubation – National Institute of Technology, Tiruchirappalli have come up with a unique concept of business incubator to support startups in India. The incubator named – 'CEDI- NITT', offers incubation, mentorship, workspace and funding to Indian startups.

The CEDI- NIT-T incubator targets startups in the Internet, mobile and software technology domains and Healthcare, Energy, agriculture, space and manufacturing sector at large.



**Indian Roller**

Blessed with different shades of blue and found all around the campus, the Indian Roller is also the State Bird of Karnataka.

After graduating in 1998 from NIT-Tiruchirappalli, both the founders joined industry. Recently, the two of them setup their own healthcare startup venture Trawello Healthcare Services Pvt Ltd at CEDI – NIT-T. Dusmant Kumar Pati has worked on multiple MNCs such as Cisco, Redhat before setting up his first healthcare startup Getmymedicine.in in which he sold. Shrinath Honnavalli, who has an Executive management in Healthcare from IIM Bangalore has worked in companies such as Cisco and HPE. Trawello provides tech based health screening for school kids with their vision to build Healthy India through their HealthyKID program

These founders realized that startup entrepreneurs require different supports such as financial, emotional, technical, advisory, network and excellent environment (workspace) to lighten their fire. Therefore, CEDI-NIT-T always loves to setup a platform for Alumni startups to offer them genuine supports, to build good business around their business idea. Hence, they chose to setup Startup company at CEDI – NIT-T incubation Centre at NIT-Tiruchirappalli Campus, which will strengthen Indian startup culture by improving success rates of innovative startups.

"There are numerous business incubators, accelerators and startup communities available in the startup society. However, the success rate of startup entrepreneurs is still extremely low. To survive and continue entrepreneurial journey, entrepreneurs require genuine support. The supports that comes from inside rather than outside," said Dr. Mini Shaji Thomas in a statement. In future, the incubator plans to set up a fund to support and invest in Alumni startups with great potential.



## Blood Donation camp



As a part of continuous social service activities of National Institute of Technology, Tiruchirappalli (NITT), a blood donation camp was organized on 8<sup>th</sup> November, 2019 at the NITT Hospital, to support the blood bank of Mahatma Gandhi Memorial Government Hospital, Tiruchirappalli aimed at lending a helping hand to the poor especially the dengue positive patients for whom platelet transfusion may be warranted. The Department of Management Studies (DoMS), NIT Tiruchirappalli played host for the Blood Donation Drive as a part of the Social Responsibility

Initiative of NISADYA- the B-fest of DoMS, NIT- Tiruchirappalli. The camp was jointly organized by Institute hospital, NSS and HumaNITTy Club of the Institute and marked a huge success with more than 90 donors including students, faculty, non-teaching staff and residents of NIT- Tiruchirappalli.

The camp witnessed a steady stream of donors throughout the day. The drive was inaugurated by the Director of NIT- Tiruchirappalli, Dr Mini Shaji Thomas who shed light on the need of such initiatives by today's youth. Chairman of Hospital Advisory Committee Dr. N. Anantharaman, Dean (Research and Consultancy) Dr. M. Umapathy and Registrar Mr. A. Palanivel, also participated in the blood donation camp. NIT- Tiruchirappalli Medical Officers Dr. R. Priyanka, and Dr. M. Malaimala Sarasveni, NSS Coordinator Dr. V. Mariappan, Medical Officer of Mahatma Gandhi Memorial Government Hospital Blood Bank Dr. Bhuvaneshwari, NSS programme officers K.Panneerselvam, Dr. M. Brindha and Dr. Ganesh Chandra Nandi along with the DoMS and NSS volunteers managed the event.

# Research & Consultancy

---

## Sponsored Research Project

Dr. Jeyachitra R K, Associate Professor, Department of Electronics and communication Engineering has received a grant to the tune of Rs. 5021440 for the project entitled Efficient Modulation Format Recognition and Optical Performance Monitoring for Intelligent Management of Future Optical Communication Networks sponsored by Science & Engineering Research Board (SERB) for 3 years.

Dr. Annapureddy Venkateswarrlu, Assistant Professor, Department of Physics has received a grant to the tune of Rs. 3146000 for the project entitled Unleashing the full potential of magnetoelectric coupling in (Ba,Ca)(Ti,Zr)O<sub>3</sub> based multi-functional composite layered structures for healthier energy harvesting sponsored by Science & Engineering Research Board (SERB) for 2 years.

Dr. Ashok Kumar Nallathambi, Assistant Professor, Department of Mechanical Engineering has received a grant to the tune of Rs. 3051180 for the project entitled Experimental investigation of thermal cracking due to rewetting phenomena during metal quenching process sponsored by Science & Engineering Research Board (SERB) for 2 years.

Dr.C.Geetha, Assistant Professor, Department of Instrumentation control Engineering has received a grant to the tune of Rs. 2706500 for the project entitled RFID based wireless sensors for surface crack monitoring sponsored by Science & Engineering Research Board (SERB) for 2 years.

Dr. M.Umapathy, Professor, (HAG), Department of Instrumentation and control Engineering has received a grant to the tune of Rs. 1687000, for the project entitled Health Monitoring and Fault Diagnosis of Turbo pumps of Liquid Rocket Engines (LREs) using Deep Learning Neural Networks sponsored by ISRO –RESPOND for 2 years.

Dr.V.Muthupandi ,Professor, (HAG), Department of MME has received a grant to the tune of Rs. 3262000 for the project entitled Understanding the forming behaviour of C103 alloy in different treated conditions for rocket engine nozzle applications sponsored by ISRO –RESPOND for 2 years.

Dr. B. Venkataramani, Professor, (HAG) Department of Electronics and Communication Engineering has received a grant to the tune of Rs. 2088000 for the project entitled Design and Development of 14-bit 10 MSPS 50mW SAR (Successive Approximation Register) ADC in 180nm CMOS technology sponsored by ISRO –RESPOND for 2 years.



Dr.K.Muthukumaran,Professor,Department of Civil Engineering, on Consultancy charges towards Testing of Soil samples for the construction of power House (Hydro Project/Erode-KHEP) at Puliyancholai,Trichy for M/s.Shri Saravana Industries Pvt Ltd, Trichy-15 , Rs.99120.

Dr.K.Muthukumaran,Professor,Department of Civil Engineering ,on Consultancy charges towards Testing of Soil samples and Foundation recommendation for the construction of a residential building at Vallam for Mr.R.Ragunathan,Amirtha Modern Rice Mill, Thanjavur, Rs. 8260.

Dr.V. Sunitha, Assistant Professor, Department of Civil Engineering, on Up gradation of Panchayat Union Roads for M/s.Divisional Engineer (H) , NABARD and Rural Roads, Trichy, Rs.348100.

Dr.V. Sunitha, Assistant Professor, Department of Civil Engineering, on Up gradation of PUR TO ODR Standards - CBR Test for M/s.Divisional Engineer (H) , NABARD and Rural Roads, Trichy, Rs.306800.

Dr.V. Sunitha, Assistant Professor, Department of Civil Engineering, on Up gradation of PUR TO ODR Standards - CBR Test for M/s.Cochin International Airport Ltd, Rs.118000.

Dr.K.Muthukumaran,Professor,Department of Civil Engineering, on Consultancy charges towards Testing of Soil samples and Foundation recommendation for the construction of New Integrated office complex (RD&PR Complex) Building at Trichy for M/s.The Joint Director/Project Director, District Rural Development Agency, Tiruchirappalli , Rs.59000.

Prof. R. Jeyasankar,Associate Professor, Department of Civil Engineering, on TNSCB-Tiruchirappalli Divison-Construction of (G+3) STORIED TENEMENTS AT Keelapalur in Ariyalur District Under HFA-AHP-Soil Investigation for M/s.The Executive Engineer TNSCB,TRICHY , Rs.460200.

Dr.N.Siva Shanmugam,Associate Professor,Department of Mechanical Engineering, on Wire EDM-flat Tensile Test specimen, for M/s School of Mechanical Engineering, VIT University,Vellore , Rs.9735.

Dr.K.Muthukumaran,Professor,Department of Civil Engineering, on Consultancy charges towards the soil Testing and Foundation recommendation for the proposed construction of (G+3) Commercial Complex Building at Thiruverumbur for Mr.L.Ponnappan, Trichy , Rs.17700.

Dr.B.Senthil Arasu,Professor, Department of Management studies, on Advance for Conducting eleven Five days MDP Programme for 352 DCMs/ACMs/CMs M/s.The Chief General Manager/L&D,Neyveli Lignite Corporation Limited,Neyveli, Rs.600000.

Dr.K.Muthukumaran,Professor, Department of Civil Engineering, on Consultancy charges towards the Proof-checking of Geotechnical Investigation and SBC Confirmatory report of RE wall approaches in VUP's, PUP & Flyover for Baharagora Singhara Road Project for M/s.The Joint General Manager, Transportation Infrastructure IC,L&T Construction, Chennai, Rs.147500.

Dr.N.Siva Shanmugam,Associate Professor,Department of Mechanical Engineering, on Tensile Test & Report Preparation for M/s.Bridge and Roof Co.(India) Limited, Teynampet , Rs.2714.

Dr.Jeevan Joseph& Dr.Raghavan R Assistant Professor, Department of Civil Engineering, on Proof check for design of infrastructural building for Bharat Electronics for M/s.KITCO Ltd, Cochin, Rs.1030003.



# Students

## Interactive session with Dr. Magyar Peter, Director for Chapter Development, IEEE IAS



The IEEE Industry Applications Society NIT-Tiruchirappalli in association with IEEE SB NITT organized a short interactive session with Dr. Magyar Peter, Director for Chapter Development, IAS on 14<sup>th</sup> December 2019. Dr. M. Peter served in many positions including – The Chairman of Chapter Development, Global chapter secretary IEEE IAS/PELS/IES and more. Dr. Peter addressed the gatherings on the insights of IEEE IAS Chapter and various opportunities for the students to be explored with the chapter. The session had more focus on Globalization and Youth activities for improving the Chapter growth

on regional basis. The interactive session helped in polishing ideas, views and thoughts for the purpose of Chapter Strengthening in the Institution.

## IEEE Student Branch - Social Gathering and Networking

The IEEE Student Branch of NIT – Tiruchirappalli in association with IEEE IAS student chapter organized a networking party for its members on 20<sup>th</sup> December 2019. The event was held at Hotel DiMoRa, Tiruchirappalli. The executive committee members of both 2018 and 2019 were invited for the networking party. The party was organized to appreciate the executive committee members of both 2018 and 2019 for their time and efforts in the successful functioning of the IEEE Student Branch at NIT – Tiruchirappalli. Around 20 members including Professors, Research scholars, and PG students of NIT- Tiruchirappalli attended the event.



**Green Bee Eater**

With a bright green plumage, this is definitely one of the beautiful common birds found on our campus. As the name suggests, they usually feed on Insects.



**Indian Golden Oriole**

This shy species, known for its attractive yellow plumage are usually found in the treetops near Staff Quarters.



## NIT- Tiruchirappalli Alumni to give USD 3 Million for Research and Development



NIT-Tiruchirappalli will soon have more PhD's come out from its portals, thanks to the generosity of its past students, who have together, taken on the responsibility to ensure that NIT - Tiruchirappalli produces more world class research scholars in different engineering verticals from their college by contributing \*USD 3 Million\* in the next two years.

In her address Dr. Mini Shaji Thomas, Director NIT-

Tiruchirappalli said that there has been sea change in the outlook of all the past students of our college. They are willing to contribute significantly for the all-round development of the institution. Talking about the Women development program WIN-NITT, she said the network is self-governed with directives from the Director of NIT- Tiruchirappalli. The working council comprising of student volunteer will chalk out the programs every year with support from a group of Alumna members. Women and Men Alumna of NIT- Tiruchirappalli will participate in the coaching and counselling programs as a pro bono engagement. The first team of alumna coaches will form a group to take the charter forward.

Announcing the launch of WIN-NITT Mrs. Srimathi Shivashankar, Corporate Vice President, HCL Technologies Ltd said that this would empower and bring about Networking of Women Alumna which will be helpful to the college and self.

\*WIN-NITT\* (pronounced as win it) is the Women's Inclusivity Network of NIT- Tiruchirappalli. The purpose of WIN-NITT is to inspire and enable women NITTians to achieve their career aspirations through peer networking and support from NIT- Tiruchirappalli Alumna. WIN-NITT will focus on the following :-

1. Create networking opportunities and therefore resources for women to advance in their corporate careers including entrepreneurial ventures
2. Coach for leadership through developmental programs conducted by NIT- Tiruchirappalli Alumna as well as subject matter experts Mr. Raja Renganathan, President of the US Chapter shared information about the Chapter of NIT Alumni Association that has been formally launched in USA at California.

Mr. R. Chandrasekar in his address said that the response has been very encouraging and hope to complete the ambitious project of building a world class stadium in Tiruchirappalli with an outlay of Rs.6.20 Crores.

M. Krishna Sai, President, RECAL added that there are active Chapters in Trichy, Chennai, Bangalore, Mumbai, Delhi, Hyderabad, UAE, Singapore and USA (East & West Coast). Distinguished Alumni of NIT- Tiruchirappalli are heading several leading Corporate Houses like TCS, Tata Sons, Tata Steel, Bloom Energy (USA) Sri City etc. They also excel at Universities & Research Institutions across the globe. Sai pointed out some of the initiatives taken such as Alumni Visiting Faculty Program, Alumni Designing Industry-specific Courses for students, Alumni Mentorship Program and Internship for students in institutions/companies headed or founded by an alumnus.



### Plain Cupid

The smallest butterfly species found on our campus so far.



# NITTT

Published By

Public Relations and Media Team

Design

**BWORLD**

Compiled By

**Dr. K.N. Sheeba**

Content

**Office of the  
PR & Media**

Edited By

**Dr. S. Arul Daniel  
Dr. K.N. Sheeba**

*Pictures and Content of Birds and Butterflies  
by Mr.R.Harishwar & Incredible NITT*

National Institute of Technology,  
Tiruchirappalli Tamil Nadu, India- 620015,  
Institute : +91-431-2503000 / 2504000  
Fax : +91-431-2500133  
Website : <http://www.nitt.edu>  
EMAIL: [mint@nitt.edu](mailto:mint@nitt.edu)

