



# CONVERGENCE 2K15



## REPORT

### Technical Events

Convergence 2k15 took the following themes as broad spectrum and total of **48** Technical Events, were conducted from 2<sup>nd</sup> to 4<sup>th</sup> March 2015 Under Each theme.

- ✓ Structures
- ✓ Virtual World

- ✓ Space
- ✓ Energy,

- ✓ Robotics
- ✓ Lifestyle

### Robotics

Robo-Soccer

Robo - Rescue

Robo - Rally

Robo - Wars

Line Tracer

### Energy

Electrovision

E-Spark

Circuitrix

Tech Ladder

E-Zeal Blitz

Electrect

Tractionator

Forza  
Interphaza

Approach to  
Gain  
Empowerment

### Virtual World

Techies-Quiz

Cad For All

Techno Hunt

Idea-Tech-  
Krack

Virtual Tech  
Hunt

LAN Gaming

Kaun Banega  
Programpati

Technofun

Code Hunt

Tech-Frolic

Brain Of  
Convergence

Game Of  
Codes

### Lifestyle

Short Film  
Showcase

Paratroniz

The Crisis

Technical  
Treasure Hunt

Maths Mania

Best Of Waste

Campus Calling

Tool Quiz

Behind The  
Invention

No Disaster?  
Know Disaster!

Electroblitz

IDEATE

### Structures

Mechanisms

Survey Saints

Cad Maniac

Floating  
Structures

C-Villa

Arcus

Cogito

Concrete  
Blocks

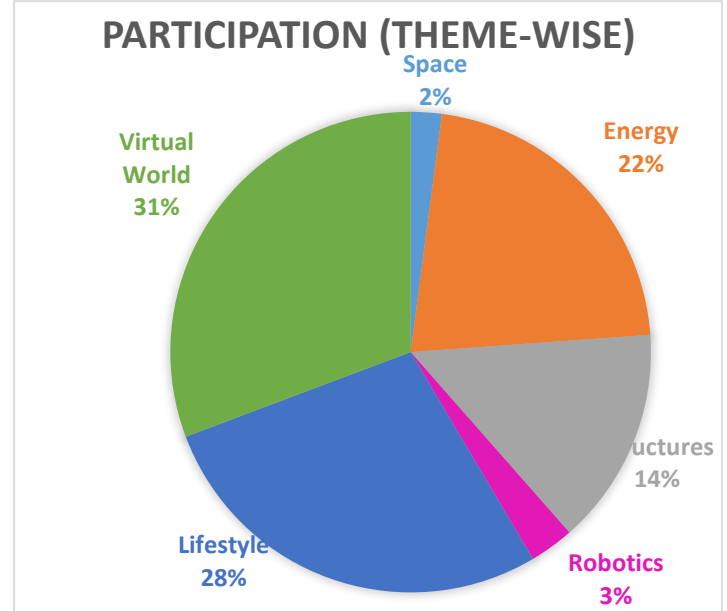
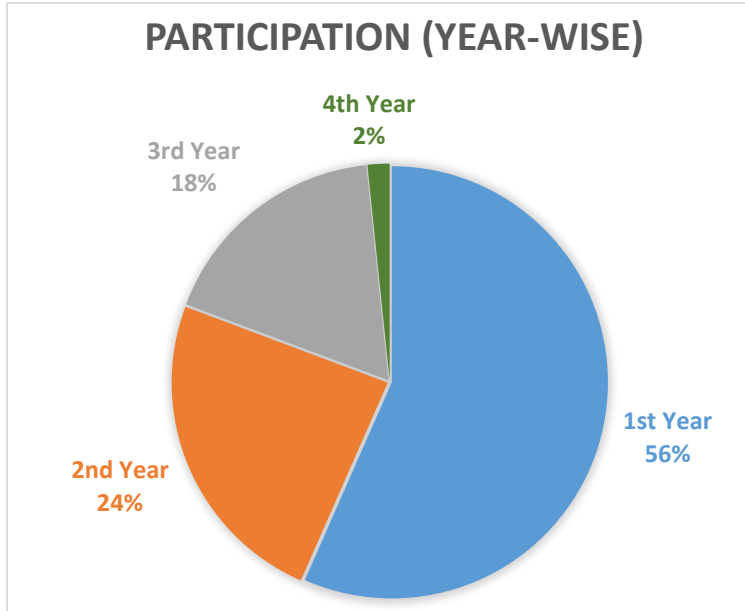
### Space

Known  
Universe

Stellar

## Summary of Student Participation

Students of a total of 72 Colleges/Institutes including VNRVJIET have participated in Convergence 2K15. The number of registered participants is 4613 in all events together, of which 1271 participants are from other Colleges/Institutes.



## Workshops

List of Workshops Conducted with the Number of Participants

Sl.No	Workshop Name	No. of Participants
1	Big Data	22
2	3D Printing	33
3	Bridge Designing	33
4	Mozilla Firefox App Development	64
5	Unmanned Air Vehicle Design With Live Demo	63
6	Solar Clan- In Association With IIT BOMBAY	58
7	Motion Sensing And Gesture Computation – Augmented Reality	57
8	Data Structure Behind The Social Networks	27
9	Industrial Automation With PLC And SCADA	73
10	TELUGU in Information Technology	34

## **SAARADHI**

SAARADHI – ENGINEERS LEADING THE SOCIETY, was organized by NSS, VNRSF and Motivation club, the social clubs of the college. This platform was formed on the belief that technology is the panacea for the social evils and engineers are the best architects of tomorrow. The events that were organized as a part of the theme are

**WILL YOU BE MY TEACHER:** This event was inspired from an initiation by an NGO called Akanksha, which is aimed at bringing students who are in need of better guidance and outlook. We selected ZPHS Pragathi Nagar, 7<sup>th</sup> standard students. This platform also gave an opportunity to make students realize that sharing knowledge is the best ever service they could do. The event got a huge response wherein students taught various topics from Vedic mathematics to paper arts, guitar training, dancing etc. Everyone who came forward to teach were appreciated with badges for bringing smiles on the little faces.

**I AM NOT A HERO:** An open forum that gave a platform for an inspiring insight towards society. Some famous social activists of the day like Mr.Rakesh Reddy Dubbudu, an RTI activist, Mrs.Manjulatha Kalanidhi, journalist(US Media) initiator of the "Rice Bucket Challenge" and Ms.Prathima Nalabolu, fellow of prime minister rural development scheme. Students and faculty actively participated in the discussion and made the gathering meaningful and inspiring. The meet also witnessed Dr. D.N.RAO, Dr. C. D. Naidu, Dr. C. Kiranmayi and HODs of various departments and added their insights to the talks. The discussion took place for 3 hours and ended with felicitation of the heroes of the day.

**SOCH:** This event invited engineering and innovative ideas that would instill change in the existing society. Over 30 such ideas were presented on 2<sup>nd</sup> and 3<sup>rd</sup> of March which were really encouraging and innovative in their own ways. The event was judged by the faculty members G.Saradha (CSE), B.V.Kiranmayee (CSE), Suresh kumar (EEE). An idea called LITER OF LIGHT INDIA was awarded the first prize.

**PANACEA:** Formed to invite the projects that would solve the social issues. Many projects were witnessed in this platform which ranged from ideas that provide sustainable lighting solution to slums by using recycled plastic bottles to an app which helps in reporting the quality of water to concerned authorities. The project called PREPAID POWER CONSUMPTION was awarded the first prize.

**AMAZING RACE:** A time constrained and thought provoking race which is a version of bringing awareness about various issues that we neglect each day.130 teams registered and participated and thus it met the objective of spreading awareness among students in a very different and friendly way.



**VIGNANA JYOTHI:** Awareness, case studies were brought to the student crowd in a more interesting and different way with audio and visual aids. Many real time case studies were shown about various issues like child labor etc. This exhibit not only made people realize number of things going on around them but also led them think of their own role in solving some of them.

NSS team has also organized a platform for various student bodies that are working on the parallel lines for the betterment of the society, to share their views and activities that help for a more

**WOW**-As the maintenance and disposal of waste is one of the prevalent problems in the society, we ought to follow the principle of Reduce, Reuse and Recycle. So under the banner of wow we exhibited models made from waste. This exhibition evoked stimulating ideas of creating Wonders Out of Waste(WOW).The goods made for **WOW** have been auctioned and the collected money Rs 3520/- will be donated to Cheyutha charitable trust.

**SOCIAL ASSEMBLY**-With a motto to bring together all the great minds and extract their thoughts on sensitive social issues through debate, we conducted **Social Assembly**-an open discussion and debate session. Many students took part ebulliently and taught each other the best arguments by displaying their confidence and skills of public speaking.

**JAGRUTHI**-enlighten yourself

The intent of **Jagruthi** was to enlighten students with useful information tracing back ancient Indian cultures to the modern democratic India and the power a common man wields.

The event included:

- RTI (Right To Information)

- Cultural heritage of India and its importance in modern world
- Is it right?—A thought provoking demonstration on daily actions like traffic, power usage etc.
- Trade affecting Rupee value
- Scientific reasons behind Indian traditions
- Safety apps
- Health tips

Each and every person that left the stall had a satisfied look that they learned something new. Interest was evident on the listeners' faces that made our work rewarding.

**MAKE HAPPINESS HAPPEN**- fund raising stall

Following the traditional practice of setting up a fund raising stall in every convergence, this year we organized an event **Make happiness happen** to raise fund that is required for the education of children (35 in number) at Cheyutha charitable trust. We raised Rs 20,022/- of fund through fund raising stall and Rs.3520/- of fund through WOW stall



## Open House – Showcasing VNR Projects and Facilities

Over 120 Exhibits & Demos of Research and Consultancy projects were displayed during second and third day of convergence at PG block. Following are the list of Domains and projects under them.

Domain	Project
<b>Agriculture and Water Management</b>	1. Design and implementation of Turbidity, DO and Ph. sensors
	2. Implementation of WSN with a Moisture sensor and conductivity sensor for automatic irrigation for Agriculture.
	3. Development of effective Wireless sensor Network System for Water quality and quantity monitoring (AquaSense)
	4. Design and development of a AgriBot
	5. Rain Water Harvesting

Domain	Project
<b>HealthCare and Biometrics</b>	1. Gesture recognition using Flex Sensors
	2. Airwriting Recognition
	3. Acoustic Signal Analysis for Healthcare
	4. Emotion, Stress and Cough and Recognition/Detection using Speech
	5. EOG and ECG Monitoring & Analysis
	6. Blue Brain (Virtual Brain) Technology
	7. Virtual Assistant for Paralyzed patients
	8. Arrhythmia classification
	9. Android Application Who is the Doctor
	10. Emotion recognition based on text using Neuro Fuzzy System.
	11. Detection of Superficial and Volumetric Features in 3-D Digital Images
	12. Development of Tool for the Management of Diabetes Mellitus
	13. Development of machine learning based algorithm for computer aided diagnosis of malaria
	14. Automated Screening Of Malaria Parasite Detection Using Machine Learning Methods
	15. Liveness detection and Image quality assessment for fake Bio-metric detection.
	16. Exoskeleton BOT
	17. Hardware implementation of image processing techniques for the detection of eye diseases.
	18. Design and implementation of algorithms for real time patient monitoring in ambulance while in transit.

Domain	Project
<b>Energy &amp; Power</b>	1. Genetic SVM Usage for detecting Electricity Fraud
	2. Design and construction of scale down model of Van de graff Generator
	3. Wireless power transmission (Witricity)
	4. Solar tracker & Solar tree including Agriculture implementation.
	5. Hardware implementation of FPGA based controller for multilevel inverter
	6. FPGA implementation of Field Oriented control for PMSM
	7. Development and implementation of DSP based Novel algorithm for the protection of power transformer
	8. Security system using Solar
	9. Stun gun
	10. Dark and light sensor
	11. Solar mobile & laptop charger
	12. Low cost Power generation using bicycle
	13. Particle accelerator
	14. Hollow flash light
	15. Kelvins thunderstorm
	16. Continuity tester
	17. Tesla coil
	18. Stability Enhancement with UPFC using CSO
	19. Axial flux machines
	20. Multilevel inverters for high power applications
	21. Development of optimization techniques for protective devices and DG allocation
	22. Application of wavelet function for the PWM control of inverter
	23. A dual two level inverter with common mode voltage elimination scheme for an induction motor drive
	24. Quadratic converter
	25. Design and development of MPPT DC link and static converter for smart microgrid application
	26. DC level stabilization in multilevel inverters
	27. Analysis of 3 level neutral point clamped inverted fed induction motor
	28. Wireless Fault monitoring in LLG transmission line
	29. Running 3 phase motor on a single phase supply.
	30. Loop detector
	31. ATC Enhancement using FACTS in Deregulated Power System

Domain	Project
Gaming, E-Commerce, E-Learning, Information Technology	1. Design and implementation of ATM controller
	2. Mosquito Bat Gaming
	3. Code Hacker
	4. Augmented Reality App for Mobiles
	5. 3D flight simulator
	6. Display of 3D objects in 2D space in Adobe Flash with AS3.0 For E-Learning
	7. Google Street View of VNRVJIET
	8. Event Dunia.com
	9. TETRIS
	10. E-Busspass registration and Renewal System
	11. Mathematical Formula Finder (Android Application)
	12. Data Mining Application for Cyber Credit-Card Fraud Detection System
	13. SFLOW/ INTEGRATION WITH SDN
	14. Image Fusion using fuzzy & Neuro fuzzy logic
	15. Identity Based short Signature scheme
	16. Incremental Clustering and Classification of Text Documents
	17. Clustering and Classification of High Dimensional Text Documents
	18. Dynamic Informative Mobile Applications. (Include Digitization of Land Records concept also here)
	19. Massive open online course through handheld device.
	20. Dynamic hand gesture recognition system to control soft front panels.

Domain	Project
Semiconductor, Telecom, Industrial, Domestic, General	1. Low leakage CNTFET Full Adder Circuit
	2. Application of Nanobot As Electronic Nose (Miscellaneous)
	3. Wireless Charging of Mobile Phones Using Microwaves
	4. Arduino wireless display board
	5. Carrier Aggregation
	6. X2 Handover in LTE
	7. LPG Gas leakage detection
	8. Voice Commands for PC
	9. Self-Balancing Robot
	10. 3D Printing Machine
	11. Optimization of controllable turning parameters for High Speed Dry Machining of Super Alloys by measurement of Tool Wear
	12. Design & development of a multipurpose & cost-effective AGV (Automotive guided vehicle)
	13. Remote control for home appliances including temperature control.
	14. Fon technology



Domain	Project
<b>Defense, Automotive, Transportation, Construction</b>	1. Advanced Tracking Device for Transport System
	2. IPCore development of MILSTD 1553 Remote Terminal
	3. Implementation of Traffic Light controller using FPGA
	4. Mobile Image position and performance acquisition system
	5. FM Based Switch for Street Light Control
	6. Automated Commando Training System through VNRVJIET
	7. Intelligent and Intuitive Signaling System for On-road Driver assistance
	8. Sensory Measuring Unit
	9. Driver safety index using integrated computing system
	10. Driving Simulator for Indian Environment
	11. Vehicle Locking & Tracking System (VLTS)
	12. Human Powered Vehicle
	13. Hybrid GO-Kart (DESIGN AND FABRICATION OF HYBRID VEHICLE USING ELECTRIC AND CONVENTIONAL FUEL SOURCES)
	14. Experimental study of influences of pulsed current and non-pulsed current Gas Tungsten Arc Welding on 6082 Aluminum alloy Weldments
	15. Comparative study of weld characteristics of IS : 65032A Aluminum alloy by two processes Friction Stir Welding ( FSW ) and gas tungsten arc welding (GTAW)
	16. Development of procedures for computation of Titanium–Vanadium Binary alloy phase diagram using Cluster Variation method
	17. Design & analysis of new locking mechanism for fixing wheels to an automobile with minimum human effort
	18. Design & Development of a Quadruped robot
	19. Solar Assisted Hybrid Electric Vehicle
	20. Formula Student Car
	21. International Go-Kart Vehicle
	22. Design of Reversing mechanism for 2 wheelers
	23. Low cost Fuel injector cleaning machine
	24. Automated Dam Gates
	25. Metro Rail Project
	26. Evaluation Of Traffic Signal Timing Optimization For Heterogeneous Traffic Conditions Using Microscopic Simulation Program
	27. Liquefaction of soils
	28. Development of High Strength Hybrid Fiber Reinforced Self Compacting Concrete using Quartz Materials
	29. Development of Macroscopic Hydraulic conductivity model in soil from Physical & material properties.
	30. Laboratory Investigation Of Recycled Asphalt Pavements (RAP) In Predicting Its Influence On Modified Asphalt Mixture For Evaluation Of Rutting Characteristics
	31. Hex-Copter