



ROBOTIC PROJECT EXPO REPORT ON CELEBRATION OF NATIONAL SCIENCE DAY - 2019

Science Carnival - 2019
Feb 27th & February 28th
Theme: “Communicating Science For All”

Organized by
Department of Computer Science & Engineering

Supported by,



KSCST
KARNATAKA STATE COUNCIL
FOR SCIENCE AND TECHNOLOGY

KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY INDIAN INSTITUTE OF
SCIENCE, BANGALORE – 560012 Phone: 080 – 23341652, Tele-fax: 080 – 23348840
E-mail: office@kscst.org.in Website: www.kscst.org.in

NATIONAL SCIENCE DAY- 2019

Theme: “Communicating Science To all”

Background

National Science Day is celebrated in India on 28 February each year to mark the discovery of the Raman effect by Indian physicist Sir C V Raman on 28 February 1928.

In 1986, the NCSTC asked the Government of India to designate February 28 as National Science Day. The event is now celebrated all over the country in schools, colleges, universities and other academic, scientific, technical, medical and research institutions. On the occasion of the first NSD (National Science Day) (28 February 1987) NCSTC announced institution of the National Science Popularization awards for recognizing outstanding efforts in the area of science communication and popularization.

National science day is celebrated on every year on 28 February. The celebration also includes public speeches, radio-TV talk shows, science movies, science exhibitions based on themes and concepts, watching the night sky, live projects, research demonstration, debates, quiz competitions, lectures, science model exhibitions and many more activities.

KSCST every year celebrates National Science Day on 28th February to commemorate the day on which Sir C.V.Raman discovered the Raman effect.

Karnataka State Council for Science and Technology has taken many science popularization activities and of these activities National Science Day celebrations is one of the major events.

For National Science Day, Karnataka State Council for Science and Technology organizes many competitions for Primary / High School students from Bangalore and Bangalore Rural District.

Our college Atria institute of technology is celebrating national science day for the first time by organizing project exhibitions, tech say, seminars on science and interaction with scientists.

Program objectives

The following objectives are the typical skills and abilities that the student will have after science exhibition on national science day.

- Manage complex robotics that are motivational, entrepreneurial, research and/or industry linked
- Take leadership and mentoring roles during the design and implementation phases of robotics and projects
- Apply ethical standards, principles of design for sustainable development, and environmental consideration to conceptualizing and implementing industry-related projects
- To provide necessary scientific intervention for problems of the specially abled persons
- To foster scientific attitude among students
- To provide necessary scientific intervention for problems of the society
- To foster scientific attitude among students


- To encourage innovative ideas with students and others.


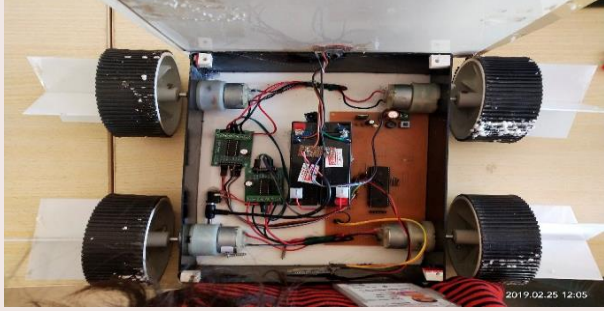
Activities:

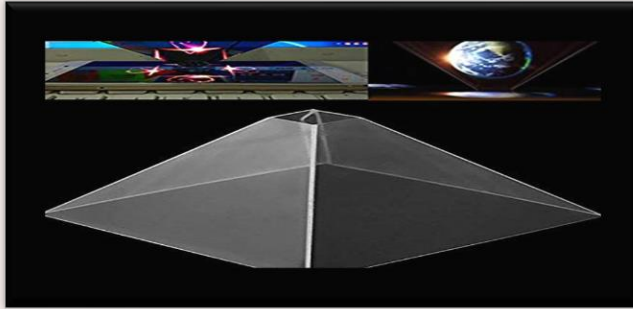
1. Project Expo on “Robotics” by engineering students:

Project Expo was conducted by second year computer science engineering students who excellently showcased their projects. High school students of nearby invited schools and 1st year engineering students of all branches attended the Project Expo and got inspired from various projects they observed.

List of working models on ‘Robotics Technology’ demonstrated during NSD 2019

Sl.No	Title of the Model
1	<p>WiFiBot : WiFi controlled robot (WiFiBot) is controlled wirelessly using any WiFi enabled Android smart phone. Here the user gives the direction for the robot using the application in smartphone.</p> <p>Students Names : Shreeraksha Shruti A P Sparsha S G Swathi N</p> 
2	<p>Automated Plant Watering System : We have developed a prototype, which makes a plant more self-sufficient, watering itself from a large water tank and providing itself with artificial sunlight. The pro-To type reports status of its current conditions and also reminds the user to refill the water tank.</p> <p>Students Names : 1.Athiya Khan 2.Mansi Jha 3.Nishanth Prakash</p>

	
3	<p>Amphibot : The aim of the project is to make an amphibious robot . It gives an insight of design and development of an exploring robot, capable of operating in constrained environments.</p> <p>Students Names : Suhena Sujay Viviana P Aranha Spoorthi P</p> 
4	<p>Interactive Holographic Display : The light reflected off the subject is captured on a holographic plate, which is similar to an undeveloped strip of film. When light strikes an object with an irregular surface, it bounces off at a huge variety of angles, so different aspects of the object are disclosed when it's viewed from different perspectives.</p> <p>Students Names : Aishwarya M F Prabhakar Shilpa N Deepthi Priya D</p>



5 **Ro-Bin:** Garbage sorting is a efficient way of solving the problem. The garbage can be sorted into wet and dry waste using our robot : k
Students Names :

Navya NC

Menaka G

Chandana Prakash



6 **Cleansea :** The idea is to present a robot which is capable of performing multiple tasks that are helpful for household purposes such as cleaning and mopping the floor.

Students Names :


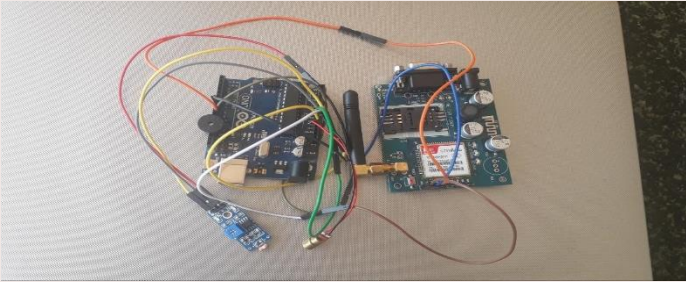
Shivani Kini

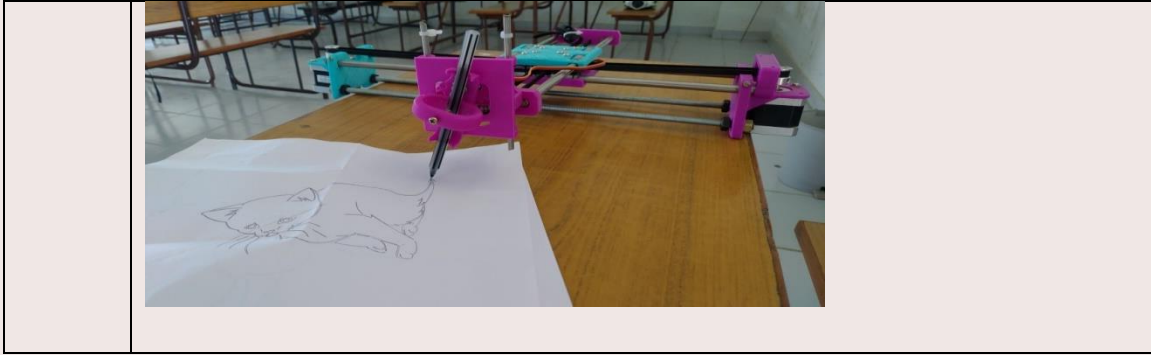
Ratna Kumari B

Syeda Fathima Zohra

Syeda Arbeena



7	<p>IOT BOT : This robot functionality is To pick and place controlled by the user through the smart devices, used for the safe welding, used in spying.</p> <p>Students Names : Pramod BN Pavan Angadi Lochan R Prasad Karan R</p> 
8	<p>Laser Security System: The aim of the project is to make a Laser Security System. Laser based Security System is a type of security and alarm system that uses Laser light and a Light sensor. A security system protects our homes, offices, banks, lockers etc.</p> <p>Students Names: Harshitha S Priyanka K Poojitha S Pallavi TS</p> 
9	<p>Drobot : This is a drawing robot, which is powered by an Arduino uno controller, uses a CNC Shield, and GRBL firmware.</p> <p>Students Names : Sanjay Kumar BM Saqib Ahamed Sharief Shreevatsa N Sanjay SV</p>



Robotics includes mechanical , electronic engineering, information engineering, computer science, and other branches of engineering and science. Robotics deals with the design, construction, operation, and use of robots, as well as computer systems for their control, sensory feedback, and information processing.

These technologies are used to develop machines that can substitute for humans and replicate human actions. Robots can be used in many situations and for lots of purposes, but today many are used in dangerous environments, manufacturing processes, or where humans cannot survive. Robots can take on any form but some are made to resemble humans in appearance. This is said to help in the acceptance of a robot in certain replicative behaviors usually performed by people. Such robots attempt to replicate walking, lifting, speech, cognition, and basically anything a human can do. Many of today's robots are inspired by nature, contributing to the field of bio-inspired robotics.

The concept of creating machines that can operate autonomously dates back to classical times, but research into the functionality and potential uses of robots did not grow substantially until the 20th century. Throughout history, it has been frequently assumed by various scholars, inventors, engineers, and technicians that robots will one day be able to mimic human behavior and manage tasks in a human-like fashion. Today, robotics is a rapidly growing field, as technological advances continue; researching, designing, and building new robots serve various practical purposes, whether domestically, commercially, or militarily. Many robots are built to do jobs that are hazardous to people such as defusing bombs, finding survivors in unstable ruins.

Quick Say – Fusion of Quiz and Tech Say.

We conducted a quiz and TechSay for the engineering student who got a chance to pick and speak on latest topics of science and technology

- (a) Machine learning
- (b) Robotics
- (c) Artificial intelligence
- (d) Cloud computing
- (e) Data science

Students actively participated in QuickSay by motivating and inspiring other juniors and students from different colleges and schools.

Tech Talk on “Communicating Science for all”-

Science communication is a relatively new, but dynamic and multidisciplinary field of scholarship and practice that encompasses fields such as ‘public understanding of science’ and ‘public engagement with science’. In their classic and comprehensive introduction to the field, ‘Science in Public: Communication, culture and credibility,’ Gregory and Miller (2000) conclude that the entities involved in the public understanding of science are much more complicated than the movement’s rhetoric implies. The complexities, challenges and demands of the field become evident in the six key findings of a distinguished panel of communicators, researchers and journalists – the ‘Research Roadmap for Public Communication of Science and Technology in the Twenty-first Century’, (Borchelt, 2001), namely:

1. There is no general audience for science communication, but rather many people with many different uses for science and technology information and many levels of understanding.
2. There is a difference between understanding and appreciation of science.
3. Science communication should be driven by a desire to meet audience needs and interest, and not by what the research enterprise desires the public to know.
4. Involving scientists and engineers in the communication process is critical; and these scientists need a working knowledge of the media and how they operate.
5. Science communicators who can foster mutual respect between scientists and external publics are essential to effective public communication of science.
6. The proliferation of new media and the fragmentation of existing media will have profound impacts on how and with whom one communicates about science and technology.

Interaction with students by our Chief Guest Mr.Gangaraju

KM(Scientist ‘E’, DRDO) – Our chief guest thoroughly went through all the projects exhibited by our second year computer science engineering students. He expressed how brilliantly students had used “science” behind all the projects and appreciated the students for taking such an inspiring step towards National Science Day. He also shared some of the projects and their science behind them at DRDO. We are glad to have him as our chief guest for the 2-day project expo. On a final note, the project expo was a success and all the efforts from the students were appreciated.

Program Outcomes –

- Enhancing the top six projects to the next level of improvement which gives the confidence for students to compete with National level Competitions
- Smaller projects have to be fused into Swam project which strengthens the quality of their project
- Planning to conduct such kinds of hands on sessions to first year students

Following is the invitation of the National Science Day



ASKB Campus, 1st Main, AGS Colony
Anandnagar, Bengaluru - 560024 Karnataka

All are cordially invited for the Inaugural of
National Science Day Carnival -2019
on February 27 & February 28, 2019

Inauguration between 9:00 AM and 10:30 AM on February 27, 2019
@ SEMINAR HALL

Chief Guest,
Sri. GangaRaju K M,
Scientist 'E',
CAIR, DRDO

Guests of Honor,
Sri. C.S.Kaushik Raju
Director, Technical
Atria Institute of Technology

Sri. Anand T.R
Advisor
Atria Institute of Technology

Presided by,

Dr.Aishwarya P
Chief Organizer
National Science Day

Dr. K.V.Narayanaswamy
Principal
Atria Institute of
Technology

Program Schedule of National Science Day

DAY – 1

NATIONAL SCIENCE DAY - 2K19 SCHEDULE (DAY 1)												
BRANCH	EVENTS	LOCATIONS	9:00	10:30	10:45	11:30	12:30	1:30	2:00	3:30	4:00	
	Inaugural Function	Seminar hall -1										
MECH	Elastica - The Paradox of the Principle of Least Action											
	Automobile- Cars evolution till date											
	Poster presentation											
	Computer Aided Design Workshop											
	Tea break	Seminar hall -1										
CSE	Future of Work - Robotics Workshop	AC413										
	Interaction session with scientist	Seminar hall -1										
	10: 45- robotic project expo (coe & BC 501)											
ISE	WORKSHOP -WEB DESIGN & DEVELOPMENT	AC 108										
	robotic project expo	COE & BC 501										
CV	Invited Talk	Seminar hall -1										
	Modelling of Civil Engineering Construction Marvels	Class room IV A, IV B										
	HANDS ON SESSRION	Language lab/Civil CAD lab										
	LUNCH BREAK											
ECE	HARDWARE	LIC LAB										
	Build Your Own Robot from "SCRATCH"	VLSI LAB										
	Amazon ALEXA	LIC LAB										
	ARM	Embedded controller Lab										
BSE DEPT	Magic and Origami for Maths	CC 306										
	Glass Preparation(Cook Glasses in 10 Min)	Chemistry Lab										
	Report Writing	English Lab										
	Preparation of Nanoparticles	Chemistry Lab										
	Will you eat this?(Food Adulteration)	Chemistry Lab										

DAY – 2

NATIONAL SCIENCE DAY - 2K19 SCHEDULE (DAY 2)

BRANCH	EVENTS	LOCATIONS	9:00	10:30	10:45	11:30	12:30	1:00	2:00	3:30	4:00	
MECH	Automobile- Cars evolution till date			TEA								
	Poster presentation											
	Computer Aided Design Workshop											
	Tea break	Seminar hall -1										
CSE	ROBOTICS MODEL MAKING EXHIBITION	CoE/BC 501										
	Tech Say	AC 403										
	Interaction session with scientist	Seminar hall -1				10:45 onward						
	10: 45- robotic project expo (coe & BC 501)											
ISE	Poster Presentation	AC 207										
	Tech Talk	AC 208										
	robotic project expo	COE & BC 501				10:45 onward						
CV	Structure Capture	Campus										
	Hands on session	Strength of materials lab										
	Futuristic Civil Engineering	Language lab/Civil CAD lab										
	Tech Debate	Class room IV A, IV B										
	Invited Talk	Main Seminar Hall										
	LUNCH BREAK											
ECE	HARDWARE	LIC LAB										
	Build Your Own Robot from "SCRATCH"	VLSI LAB										
	Amazon ALEXA	LIC LAB										
	ARM	Embedded controller Lab										
BSE DEPT	Magic and Origami for Maths	CC 306										
	Glass Preparation	Chemistry Lab										
	Movie on Nobel Laureate Chandra	CC 306										
	Report Writing	English Lab										
	Preparation of Nanoparticles	Chemistry Lab										
	Will you eat this? (Food adulteration)	Chemistry Lab										
	BREAK											

Pictures captured during the inaugural function



Pictures captured during the workshop





Pictures captured during the interaction with students by our chief guest Mr.Gangaraju KM



Memories 





Feedback :

- Good work, liked the thought process of the projects! – **C.S Kaushik Raju(Director, Technical, Atria IT)**
- Interesting ideas and projects. Definitely should be enhanced to build towards larger and more complex prototypes by expanding technical scope – **Rahul Dighe(Mentor CS&E)**
- Excellent effort. Enthusiastic students with some good ideas. Let's keep exploring and improving ideas. Best of luck! – **Sanjay Shukla(CEO ABiC)**
- Super projects, good explanation, keep it up. – **Sharmila P(Asst. Prof. Dept. of Maths)**
- Very good projects, keep it up. – **Sushma TC(Asst. Prof. Dept of Maths)**
- **Principal gave us Valuable feedback on all the projects**
- **Mr. Narasimha Shastri and Mr. T R Anand had suggested few Projects like Amphibot, farm Robot, IoT for Watering, waste Management to be taken to the next level.**

.....**THANK YOU ALL**.....