

DESALITE

e-NEWSLETTER

REFLECTORE

Newsletter by the Department of Science

November 2017

SFS / BSC - BCA 02/Nov 17

Message from the Principal



Dear Desalites,

This year we have the joy of blessing and inaugurating pure science in our college. The Chemistry lab as well as the Physics with wonderful facilities is a witness to the importance given to science and those who follow it closely.

As a part of scientific research we learned that use of ball pens (use and throw culture) has harmed Mother earth in its own way.

Hence to save her from further harm the college has come up with **"Fountain Pen Campaign - One Pen Many Years"** wherein all the students pledge to use fountain pen and reduce the dispatch of plastic ball pens.

I am sure it would make a heaven of difference to Mother earth and natural disasters would reduce. I wish all the DeSalites understand the value behind this campaign and join hands with this great movement.

Hail DeSalites!

Fr. Dr. Herold Christopher
PRINCIPAL



*Science is a way of thinking much more than it is a body of knowledge.
The science of today is the technology of tomorrow*

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Let's Meet: Stephen William Hawking

Stephen William Hawking CH CBE FRS FRSA is an English theoretical physicist, a former Lucasian professor of mathematics, cosmologist and author of the famous book, "A brief history of time". Sir Stephen Hawkins is the currently Dennis Stanton Avery and Sally Tsui Wong- Avery Director of Research at Department of Applied Mathematics and Theoretical Physics, University of Cambridge.

Professor Hawking is known for his work on black hole radiation (Hawking radiation), gravitational singularity theorems and was the first to set out a theory of cosmology. He is a vigorous supporter of the 'many- worlds interpretation' of quantum mechanics.

In 1963, Hawking was diagnosed with a form of motor neurone disease and given two years to live. But still he continues his family life and research and communicates with the world through computerized voice system. A recipient of a dozen of honorary degrees and numerous awards still hopes to make it into space one day.



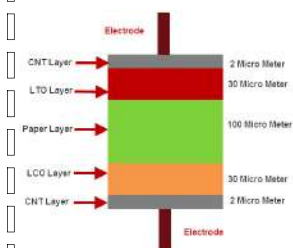
SCIENCE on wings

As per Marie Curie, scientific work must be done for itself, for the beauty of science, and then there is always the chance that a scientific discovery may become like the radium a benefit for humanity. Science is always exciting and the inspiration gained from this motivating excitement has bloomed as a wing dedicated to science on 24th October 2017 by Rev. Fr. Benny Koottanal, the Provincial of the South West India Province and the General Manager of the College who evoked our commitment towards the college and thereby to the nation.



Student's Corner

PAPER BATTERY



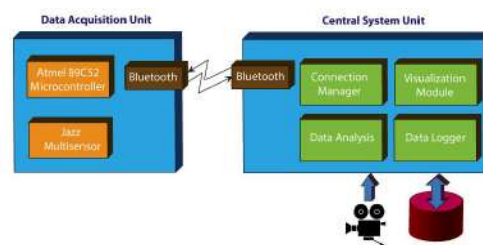
A paper battery is a flexible, ultra-thin energy storage and production device formed by combining carbon nanotubes with a conventional sheet of cellulose-based paper. In addition to being unusually thin,

paper batteries are flexible and environmentally-friendly. The paper-like quality of the battery combined with the structure of the nanotubes embedded within gives them light weight offering potential for portable electronics, aircraft, automobiles and toys.

The batteries employ nanotubes, potentially slowing commercial adoption due to excessive cost. Widespread commercial deployment of paper batteries will rely on the development of more inexpensive manufacturing techniques for carbon nanotubes.

BLUE EYES TECHNOLOGY

Blue Eyes is a technology conducted by the research team of IBM at its Almaden Research Center (ARC) in San Jose, California since 1997. The main objective of Blue eyes technology is to develop a computational machine having sensory and perceptual ability like those of humans.



The Blue Eyes technology system is a combination of a set of hardware and software systems. The hardware consists of a central system unit (CSU) and data acquisition unit (DAU). Bluetooth technology is provided for the coordination and communication between the two units. Using the Blue eyes Technology it is able to record and monitor the user's physiological condition and can thus provide a healthy stress free surroundings where the computers and humans can work together as intimate partners.

Faculty Corner

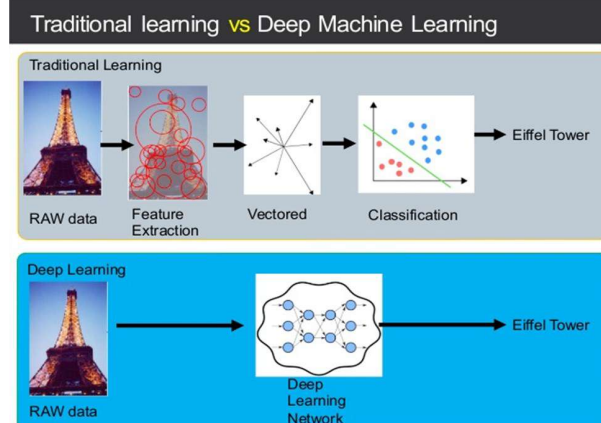
AI vs. Machine Learning vs. Deep Learning

AI and machine learning are often used interchangeably, especially in the realm of big data. But these aren't the same thing, and it is important to understand how these can be applied differently.

Artificial intelligence is a broader concept than machine learning, which addresses the use of computers to mimic the cognitive functions of humans. When machines carry out tasks based on algorithms in an "intelligent" manner that is AI. Machine learning is a subset of AI and focuses on the ability of machines to receive a set of data and learn for themselves, changing algorithms as they learn more about the information they are processing.

Training computers to think like humans is achieved partly through the use of neural networks. Just as the brain can recognize patterns and help us categorize and classify information, neural networks do the same for computers. Benefits of neural networks are (i) extract meaning from complicated data (ii) Detect trends and identify patterns too complex for humans to notice (iii) Learn by example (iv) Speed advantages

The concept of deep learning is sometimes just referred to as "deep neural networks," referring to the many layers involved. A neural network may only have a single layer of data, while a deep neural network has two or more. The layers can be seen as a nested hierarchy of related concepts or decision trees. The answer to one question leads to a set of deeper related questions. Deep learning networks do not need to be programmed with the criteria that define items; they are able to identify edges through being exposed to large amounts of data.



Prof. Jithy Lijo
Dept of Computer Science

Know Our Research Organizations

India has world class research institutes for various subjects in the discipline of Science. Council of Scientific and Industrial Research (CSIR) is the chief of most of the scientific research activity in India. There are more than 30 premier research organizations working under the purview of CSIR. Apart from CSIR, Indian Council of Medical Research and DRDO supervise research activities in the institutions those comes under their purview.

Following are some of the top research institutions in India.

- Indian Institute of Science (Bangalore)
- National Physical Laboratory (New Delhi)
- Defence Research Development Organisation (New Delhi)
- Institute of Physics (Bhubhaneswar)
- Tata Institute of Fundamental Research (Mumbai)
- Inter-University Centre for Astronomy and Astrophysics (Pune)
- National Centre for Radio Astrophysics (Pune)
- Inter-University Consortium for DAE Facilities (Indore)
- Jawaharlal Nehru Centre for Advanced Scientific Research (Bangalore)
- Institute of Mathematical Sciences (Chennai)
- Centre for Advanced Technology (Indore)
- Indian Space Research Organisation- (1) Physical Research Laboratory (Ahmedabad); and (2) Space Physics Laboratory (Thiruvananthapuram)
- Mehta Research Institute of Mathematics and Mathematical Physics (Allahabad)
- Bhabha Atomic Research Centre (Mumbai)
- Physical Research Laboratory (Ahmedabad)
- Saha Institute of Nuclear Physics (Kolkata)
- S N Bose National Centre for Basic Sciences (Kolkata)
- Raman Research Institute (Bangalore)
- Indira Gandhi Centre for Atomic Research (Kalpakkam,)
- Atomic Minerals Directorate for Exploration and Research (Hyderabad).
- Indian Institute of Astrophysics (Bangalore)
- Institute of Plasma Research (Gandhinagar)


Prof. Nandan
Department of Physics

Upcoming Event

"INTERNATIONAL CONFERENCE ON ADVANCES IN COMPUTER SCIENCE AND TECHNOLOGY"

IC- ACT 2017

January 24 , 2018



ST. FRANCIS DE SALES COLLEGE
Accredited with "A" Grade by NAAC
Affiliated to Bangalore University
Electronic City, Bengaluru-560 100

DEPARTMENT OF SCIENCE


PRESENTS

*** INTERNATIONAL CONFERENCE ON *
ADVANCES IN COMPUTER SCIENCE
AND TECHNOLOGY**

IC-ACT '18

24th January, 2018

ABOUT THE COLLEGE



St. Francis de Sales College is managed by the missionaries of St. Francis de Sales (MSFS) of South West India province who firmly believe that the education of the heart is the best education. The founder Fr. Peter Maria Menzies. The MSFS Fathers have nearly two centuries of experience in imparting quality higher education in every continent of the world.

A College with undergraduate and post graduate courses with over 1200 students on roll was graded 'A' by the NAAC team for its excellent educational track as well as infrastructure and quality in May 2015 and has received the permanent affiliation to the Bangalore University.

IC-ACT '18

A major stride in the domain of data, information and knowledge which contributes to the evolving knowledge society can be achieved by a scientific approach in processing data. The first International Conference on Advances in Computer Science and Technology (IC-ACT-18) offers an ideal opportunity to present your research outcome and experiences in the field of computer science.

The conference aims to discuss innovations and trends in experimental and theoretical research and is intended to provide a suitable platform for the researcher and technologist to share their ideas and suggestions for the sustainable development of computer and information science thereby facilitating an expansion of international information sharing.

ICACT-18 proves to be a valuable learning opportunity for all the participants.

CALL FOR PAPERS

Papers are invited but not restricted to the following themes:

- ◆ Artificial Intelligence and Neural Network
- ◆ Networks and Communications
- ◆ Image Processing
- ◆ Data Mining
- ◆ Big Data Analytics
- ◆ Network Security and Cryptography
- ◆ IOT
- ◆ Software Engineering
- ◆ Web Services and Security
- ◆ Cloud Computing
- ◆ Remote Sensing
- ◆ Distributed and Parallel Processing
- ◆ Sensor Networks and Embedded Systems
- ◆ Wireless Sensor Networks
- ◆ Nano Technology

GUIDELINES FOR PAPER SUBMISSION

The paper must be submitted in IEEE format.

PUBLICATIONS

All the papers submitted to IC-ACT-18 will be peer reviewed and evaluated by the review committee. Accepted papers will be published in the International Journal of Engineering and Techniques (IJET ISSN: 2395-1303), UGC approved journal.

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IMPORTANT DATES

EVENTS	DATES
Abstract Submission	17 th Nov 2017
Full Paper Submission	30 th Nov 2017
Conference Date	24 th Jan 2018

REGISTRATION FEES

CATEGORY	INDIAN DELEGATES	OVERSEAS DELEGATES
Students/ Research Scholars	Rs. 1500/-	\$100
Academics	Rs. 2000/-	\$100
Corporate Delegates	Rs. 2500/-	\$100

PARTICIPATION FEES

Participation Fees	Rs. 750
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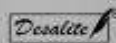
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Reflector is a Newsletter published from the **Department of Science - St Francis de Sales College, Electronics City, Bengaluru - 560100**. It highlights the activities of the Department and serves as a link between the Department as well as other colleges. You are welcome to send your feedback to sfsbca.hod@gmail.com

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