



What's-up

ISSUE: II 2016-17

**MAHARASHTRA INSTITUTE OF TECHNOLOGY
AURANGABAD**

Message by HOD,



It's a proud moment for me to announce the successful issue of **Mega - Stroke**, student magazine of Computer Science and Engineering Department, Maharashtra Institute of Technology.

The magazine highlights the academic and non-academic activities of both staff and students of the department, along with articles on technology trends.

I feel delighted to introduce you to Department of Computer Science and Engineering, at Maharashtra Institute of Technology, Aurangabad. The Department continuously aspire for increasing the knowledge, enhancing the critical thinking, analyzing and working in critical aspects of technology solutions. We always destine to impart knowledge through a well organized family of highly competent faculty.

During every semester, exhaustive academics, which implicitly incorporates all the curricular and extra-curricular activities of the department is followed meticulously without any deviation. Importance is given to outcome based teaching and learning process through faculty development programs for teachers and various skill enhancement programs for students. Students of the Department have embossed their success prints in the neighbouring area as well as doing well in multinational companies. Most of the alumni members are well-placed in reputed organizations and few of them have joined in reputed R&D and teaching organizations after their higher studies from reputed Institutions.

The Department has been consistently working towards the goal to produce highly skilled and scientifically oriented manpower through flexible, adaptive and progressive training programs along with cohesive interaction with the research organizations, academicians and industries.

The department is well raised to accommodate the needs of education for the career enhancement of students from both technical as well as societal aspects.

It has been the concerted efforts of both student editorial board and faculty coordinators the timely completion and publication of the issue is possible. I once again congratulate the editorial team for the first brick in the path of endless boulevard.

I would like to conclude with the words of Dr. A. P. J Abdul Kalam:

“Failure will never overtake me if my determination to succeed is strong enough.”

Happy Learning!!

About Maharashtra Institute of



MIT ranks 1st in region, 15th in State

■ Outlook survey of engineering colleges

LOKMAT NEWS NETWORK
AURANGABAD, JULY 9

Aurangabad-based Maharashtra Institute of Technology (MIT) has been ranked 1st in Marathwada division, 15th in Maharashtra state and 73rd in India for its academic excellence in a survey of engineering colleges across India conducted by Outlook magazine in its issue of July 4.

The Outlook-Drshti 2016 survey focused on five parameters of ranking: Selection process, academic excellence, personality development & industry interface, infrastructure, and placement. IIT Delhi ranks No 1 in India and IIT Bombay got first rank in the state. MIT's merit-based admission process, qualified and experienced faculty, state-of-art infrastructure, good industrial inputs, library with international links to digital knowledge, on-campus facility of the global certifications in mechatronics etc helped it won the national ranking.

The six months In-plant

IIT Delhi ranks No. 1 in India and IIT Bombay got first rank in the State.

training(IPT) programme gives industry exposure as well as experience during graduation. Most of students have been recruited by IPT companies after completion.

MIT has association with industries i.e Siemens center of excellence for Automation & Mechanical engineering, Infosys campus connect programme, Endress and Hauser Instrumentation Lab, Red Hat Academy and Cloudera Academy for Computer engineering. "MIT's ranking at the national level is an achievement of our students' hard work coupled with teamwork of the staff. Thanks to hundreds of industry for their inputs on regular basis," said principal Dr Santosh Bhosle.

MIT group president Dr Y A Kawade and director general Munish Sharma congratulated the MIT team for the achievement.

About Our Department...

Computer Science and Engineering

The Department of computer Engineering was formed with the primary objective of providing quality education in the field of Computer & Information Technology, while addressing the problems of present & future. Strength of the department lies in the highly motivated staff and students who understand the dynamics of the industry and hone their skills accordingly. Keeping in the view syllabus of this department is highly matching with the today's requirements. There are subjects like Cloud Computing, Smart Phone Programming, Busi-



VISION

ness Intelligence, Mainframe, Portable Computer (Laptops and Tablets) maintenance, Real Time Systems and many more. There is six months compulsory in plant training to every stu-



MISSION

dent in eighth semester. Department has industrial association with Infosys, Microsoft, ProEd Banglore, Expert systems. Students are getting industry interaction by visiting these companies and getting six months training in various companies.

To develop the department as a center of excellence in the field of computer science and engineering by imparting knowledge & training to the students for meeting growing needs of the industry & society.

Providing quality education through a well designed curriculum in tune with the challenging needs of software industry by providing state of the art facilities and to impart knowledge in the thrust areas of computer science and engineering.

Department Activities



Faculty Development Program on “Cyber Security”

Date: 28th Jan, 4th Feb and 11th Feb
2017





Faculty Achievements

Prof Seema Choudhary

1. Attended FDP on Cyber Security at MIT.

Prof. D. R. Dhage,

1. 1. Attended a one week Train The Trainer(TTT) program at SGGS Nanded, jointly organized by NASSCOM & DTE on "Qualification Pack- Cyber Security" from 30/01/2017 to 04/02/2017.
- 2.

Prof. Rahul Mapari,

1. Published a paper with PG Student.

" Twitter Data Mining using Naive Bayes Multi-Label Classifier "
IJSRD, Vol. 4, Issue 07, 2016 | ISSN (online): 2321-0613

2. Attended a three days FDP on "Cyber Security" at
MIT(T)

3. Attended a five days STTP organized by Infosys on "Software Testing"
at
RCOEM, Nagpur

Prof. Swati Vishnu,

1. published a book on "Linux" Feb 2016
2. Bronze medal from Infosys June 2016
3. FDP on cyber Security
4. Course on open stack
5. FDP on "Empowering Faculty in English Communication and soft skills"

Prof. Asra Anjum

1. Attended FDP on Big data Analytics: tools and techniques and research directions at JNEC Aurangabad
2. Attended FDP on Cyber Security at MIT

Prof. Daivashala Deshmukh

1. STTP on Big Data Analytics, 4th July-9th July 2016, MIT(E), Aurangabad
2. STTP on Big Data, 4th Aug- 5th Aug, Infosys, Pune
3. Awards: Certificate of Appreciation as a Cloudera Big Data Instructor
4. Articles:
 5. 1. "Improved Intrusion Detection System Using Cascading of C4.5 Decision tree & Support Vector " , IJETAE(ISSN2250-2459), Volume 6, Issue 8
 - 6.
 7. "Big Data Introduction", IJEET, Volume 5, Issue 1, 5th Jan 2017
 - 8.
 9. 3. "Open Source Fabric of the Future", IJEET , Volume 5, Issue 2, 15th Jan 2017

Prof. Nihit Agrawal,

1. Honor Code Certificate- IIT Bombayx on course 1. Foundation of Data Structures
2. Implementation of Data Structures 3. Algorithms 4. Basic 3D animation using Blender
2. FDP – FP 5.0 by Infosys at WIT Solapur,
3. Delivered expert talk on : “Skill Development and Career Path” at Nath Polytechnic, Paithan, on 10th Feb, 2017

Prof. Preeti Mishra,

1. Honor Code Certificate- IIT Bombayx on course 1. Foundation of Data Structures
2. Implementation of Data Structures 3. Algorithms
4. Basic 3D animation using Blender
2. Honor Code Certificate- University Carlos De Madrid on course(I.T. 1.1x) Introduction to Java
3. Delivered expert talk on : “Skill Development and Career Path” at Nath Polytechnic, Paithan, on 10th Feb, 2017

Prof. Aparna Chavan

1. Attended FDP on Big data Analytics: tools and techniques and research directions at JNEC Aurangabad
2. Attended FDP on Cyber Security at MIT

Techno-MIT, 2017

TWO DAYS- State Level Technical Event

Our Department has organized a state level event
“TECHNOMIT 2K17”.

TechnoMit-2017- A 2 days State Level Event on 3rd
and 4th March 2017



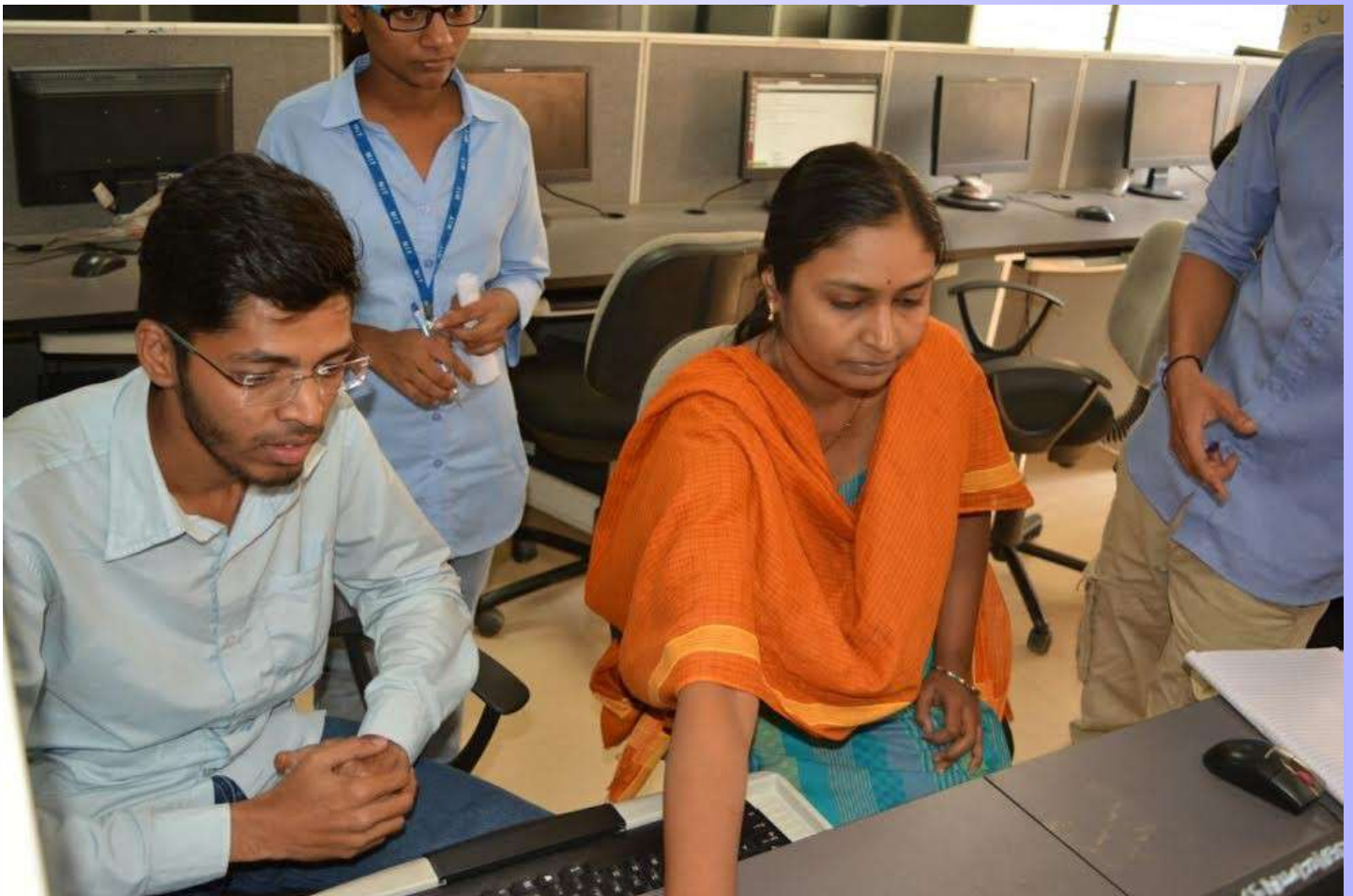
There were many exciting Technical events such as,

- Programming Contest
- Website Development
- Innovative Idea Presentation
- Movie Making
- Virtual Campus
- Poster Presentation



This was very successful and enjoying event for all the students and participants...!!







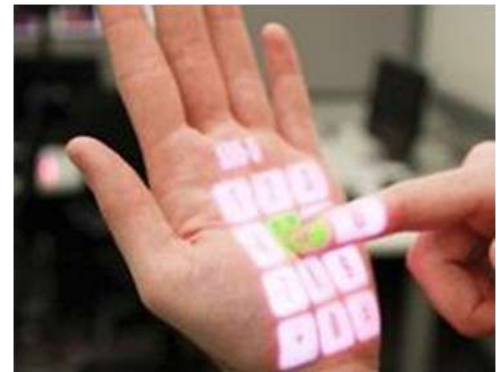


Trending Technologies

Skinput-

Introduction-

Skinput is a technology which uses the surface of the skin as an input device. Our skin produces natural and distinct mechanical vibrations when tapped at different places. As skin is stretchable, it allows for additional input modalities, such as pulling, pressing and squeezing. This increases the input space for on-skin interactions and enables more varied forms of interaction, for instance more varied gestures. This opens up a new interaction space, which is largely unexplored. We aim to contribute to the systematic understanding of skin as an input modality and of its specific capabilities. . Devices with significant computational power and capabilities can now be easily carried on our bodies. Appropriating the human body as an input device is appealing not only because we have roughly two square meters of external surface area, but also because much of it is easily accessible by our hands (e.g., arms, upper legs, torso). In this paper, we present our work on Skinput - a method that allows the body to be appropriated for finger input using a novel, non-invasive, wearable bio-acoustic sensor.



“ Technology is driving the innovation. Technology is Driving

CREATIVITY.

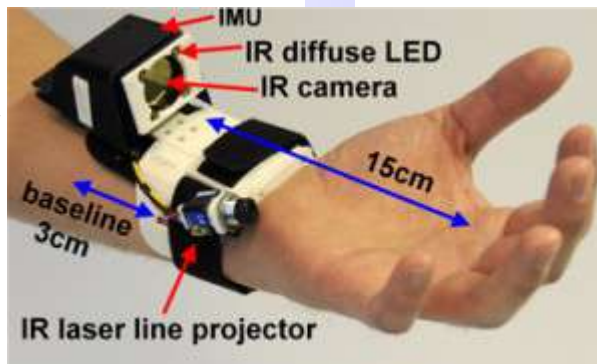
”

-Ron Kind

How it works ??

The principle on which this technology works is bio-acoustic. Whenever there is a finger taps on the skin, the impact creates acoustic signals, which can be captured by a bio-acoustic sensing device. Some amount of energy is lost to the external environment in the form

of sound waves. Apart of the rest energy travels along the surface of the skin and the rest is transmitted inward till it's get reflected from the bone. Depending on the type of surface on which the disturbance is created, the amplitude of the wave varies. For example, on a soft surface



(forearm) the amplitude is larger as compared to a hard surface (elbow) where the amplitude is smaller. In addition to the underneath surface, the amplitude of the wave also varies with the force of disturbance. Variations in bone density, size and the different filtering effects created by soft tissues and joints create

distinct acoustic locations of signals, which are sensed, processed and classified by software. Interactive capabilities can be linked to different locations on the body. The average body surface area of an adult is 1.73 m^2 , is 400 times greater than a touch-screen phone 0.004 m^2 . Sailors and tattoo parlors have

Upcoming Future-

“A Day Made of Glass – Corning's vision for the future.”

The leading international magazine for professionals involved in the flat and bent glass industry, from building to automotive, and from furniture to household appliances. G-TI is essential reading for those working in float glass plants as well as glass processors/fabricators, glazing contractors, automotive glass installers, window and door manufacturers, glass merchants, wholesalers, etc.

It's hard to think of glass as an area of rapid technology evolution. But it's one of the central technologies that will bring us incredible innovations over the next couple of years.

A combination of new technology, plus a strong desire on the part of major companies to transform glass, will affect nearly every category of consumer electronics, from smart watches to phones to tablets to desktop computers to smart homes and offices.

Hundreds of companies and organizations are

working on the coming glass revolution. But here are four companies and one university that announced serious breakthroughs recently, shat-

tering old ideas about what's possible with glass.

Google wants wearable glass

Google's Sebastian Thrun appeared this week on the [Charlie Rose program](#), and demonstrated



[Google's](#) Project Glass for the first time in public.

The technology involves special glasses, which use glass and mirrors to project a computer display onto one eye, creating the illusion that relevant information is floating in the air. Wireless connectivity and artificial intelligence enables you to con-

jure up facts, see things in context, send messages by voice and even take pictures by blinking.

Apple wants curved glass

Apple is totally smitten with the idea of curved glass.

The first place we've seen this obsession is in the ceilings of Apple stores. Apple even [applied for a patent](#) this week for its curved-glass ceiling design.

In his presentation to the Cupertino City Council last summer about Apple's proposed "spaceship" campus, Steve Jobs,

the late Apple founder and CEO, said there wouldn't be a single piece of straight glass in the entire building.

Microsoft wants smart glass

Microsoft's predictions are all based on what current research will make possible or affordable in the future. Many of these ideas are based on

“The best way
to predict the

Computer Science in News....



"India Launches Rocket With 140 Satellite Breaking Russia's 37-Satellite Rocket Launch...."

The Indian Space Research Organization launched a flock of 104 satellites into space over the course of 18 minutes on 15/2/17(WED). ISRO scientists used the XL Variant - the most powerful rocket - earlier used in the ambitious Chandrayaan and during the Mars Orbiter Mission (MOM).

India's Space Research organization or ISRO is the one launching the said rocket. Space has reported that Polar Satellite Launch Vehicle or PSLV is scheduled to set

off from India's Satish Dhawan Space Center at 10:58 p.m. EST tonight (0358 GMT on Feb. 15). It is attached with a shocking 104 satellites. Its primary satellite will be India's Cartosat-2 Earth-observation satellite. Other countries have also contributed their very own satellite to be attached to it.

PSLV weighs 3,040 lbs. (1,380 kg) together with the 104 satellites atop of it. The goal of this historical launch by India is

to place the 104 spacecraft into polar sun-synchronous orbit with an altitude of 314 miles (505 kilometers), according to the Indian Space Research Organisation.

India's space agency launched a flock of 104 satellites into space over the course of 18 minutes on 15/2/17(Wednesday), nearly tripling the previous record for single-day satellite launches and establishing India as a key player in a growing com-

mercial market for space-based surveillance and communication.

The launch was high-risk because the satellites, released in rapid-fire fashion every few seconds from a single rocket as it traveled at 17,000 miles an hour, could collide with one another if ejected into the wrong path.

Eighty-eight of the 104 satellites released on 15/2/17 were tiny, weigh-



The PSLV-C37/
Cartosat2 Series satellite
mission included the
primary satellite
(Cartosat-2) and 101 in-



ternational nano satel-
lites. It also launched
two of its own nano satel-
lites, INS-1A and INS-
1B. Countries like Israel,
Kazakhstan, the Nether-
lands, Switzerland, the
United Arab Emirates
and the United States
were the ones who pro-

vided the nano-
satellites.

Of the 101 co-
passenger satel-
lites, 96 of these be-
long to USA, and
one each are from
ISRO's interna-

tional customers Israel,
Kazakhstan, Nether-
lands, Switzerland and
United Arab Emirates.

Most of Planet's Doves
spacecraft are secondary
load only. They always
tag along with other
bigger satellites. This
one is not an exception.
India's PSLV will launch
Cartosat 2D first, and
then the other miniature
satellites like the Doves
will be released one by
one.

PSLV weighs
3,040 lbs. (1,380 kg) to-
gether with the 104 satel-
lites atop of it. The
goal of this historical
launch by India is to
place the 104 spacecraft

into polar sun-synchronous
orbit with an altitude of 314
miles (505 kilometers), accord-
ing to the Indian Space Re-
search Organisation (ISRO).
Watch the live launching in
ISRO website.

They will be inside a deployer
box that works like Jack-in-the-
-box. They are packed in a
room in the deployer box and
it has a small door that will be
opened when it is time for
their exit. Planet will observe
the satellites for the next
months

Of the 101 co-passenger satel-
lites, 96 of these belong to
USA, and one each are from
ISRO's international custom-



Something New

A first generation version of the backpack guidance system that includes energy harvesting, navigation and optical stimulation on a to-scale model of a dragonfly.

Scientists look to flying animals – birds, bats and insects – for inspiration when they design airborne drones. But researchers are also investigating how to use technology to interact with, and even guide, animals as they fly, enhancing the unique adaptations that allow them to take to the air.

To that end, engineers have fitted dragonflies with tiny, backpack-mounted controllers that issue commands directly to the neurons controlling the insects' flight.

This project, known as DragonflEye, uses optogenetics, a technique that employs light to transmit signals to neurons. And researchers have genetically modified dragonfly neurons to make them more light-sensitive, and thereby easier to control through measured light pulses. Dragonflies have large heads, long bodies and two pairs of wings that don't always flap in sync, according to a 2007 study pub-

lished in the [journal Physical Review Letters](#). The study authors found that dragonflies maximize their lift when they flap both sets of wings together, and they hover by flapping their wing pairs out of synch, though at the same rate.

Meanwhile, separate muscles controlling each of their four wings allow dragonflies to dart, hover [and turn on a dime](#) with exceptional precision, scientists found in 2014. Researchers used high-speed video footage to track dragonfly flight and build computer models to better understand the insects' complex maneuvers, presenting their findings at the 67th Annual Division of Fluid Dynamics meeting, according to a [statement released by the American Physical Society](#) in November 2014.



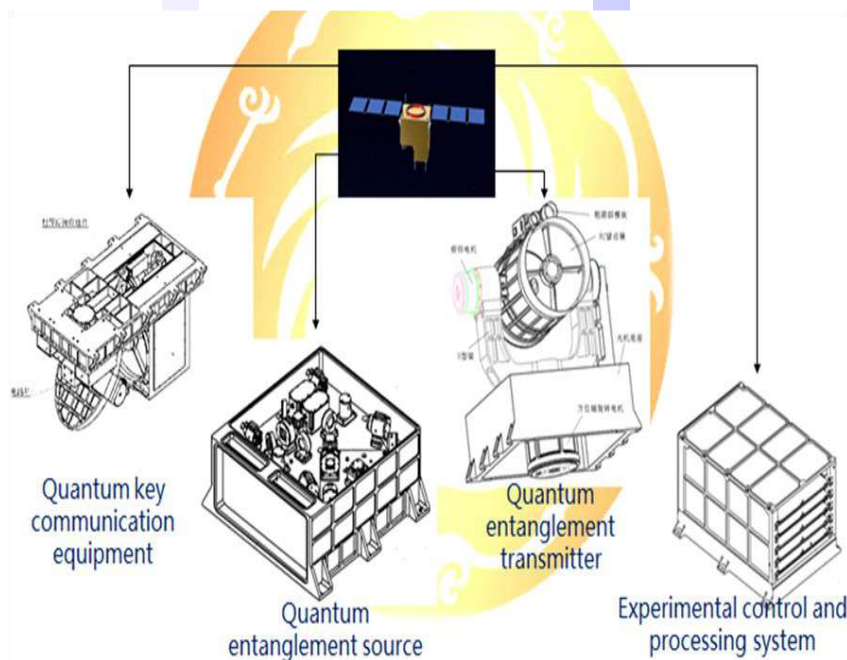
DragonflEye sees these [tiny flight masters](#) as potentially controllable flyers that would be "smaller, lighter and stealthier than anything else that's manmade," Jesse Wheeler, a biomedical engineer at the Charles Stark Draper Laboratory (CSDL) in Massachusetts and principal investigator on the DragonflEye program, [said in a statement](#).

FIRST QUANTUM

A Chinese orbiter launched atop a Long March-2D rocket is claimed to be the world's first quantum communications satellite. According to Xinhua, the 600-kg (1,320-lb) Quantum Experiments at Space Scale (QUESS) satellite will sit in a sun-synchronous orbit above the Earth at an altitude of around 500 km (310 mi) from where it will transmit quantum-encrypted messages, attempt to send beam entangled photons, and test teleportation between itself and stations on the ground.

Designed to carry out its mission over the next two years, the QUESS satellite (nicknamed "Micius" in honor of a Chinese philosopher and scientist who lived in the fifth century BCE and is claimed to be one of the very first to

conduct optical experiments) will help Chinese scientists run experiments on quantum key distribution between the orbiter and Earth stations, as well as test the ability to maintain secure quantum



communications between Beijing and Urumqi - the capital of the Xinjiang Uyghu region in Northwest China.

"The newly-launched satellite marks a transition in China's role - from a follower in classic information technology (IT) development to one of the leaders guiding future IT achievements," said Pan Jianwei, chief scientist of the QUESS project at the Chinese Academy of Sciences (CAS).

Quantum key encryption is quickly becoming an established method of ultra-secure communication, particularly as any attempt to intercept or read the encoded information means that the quantum state of the key will immediately collapse and render the data unreadable. This is because photons encoded with a particular spin state (the quantum representation of binary-encoded data) is applied, then it cannot then be measured again, unless a specific encryption "key" is applied to it which is of the same value as the one that measured its spin state in the first place.

About Editors....

Ms. Dikshatai Gajhans Ms. Kiranjeet Kaur
(Chief Editors)

Ms. Dyaneshwari Pawar Ms. Shilpa Maske
(Technical-Council Members)

Ms. Supriya Sontakke Ms. Vaishali Magar
(Creative-Council Members)

Ms. Priti Mishra
Faculty Co-ordinator