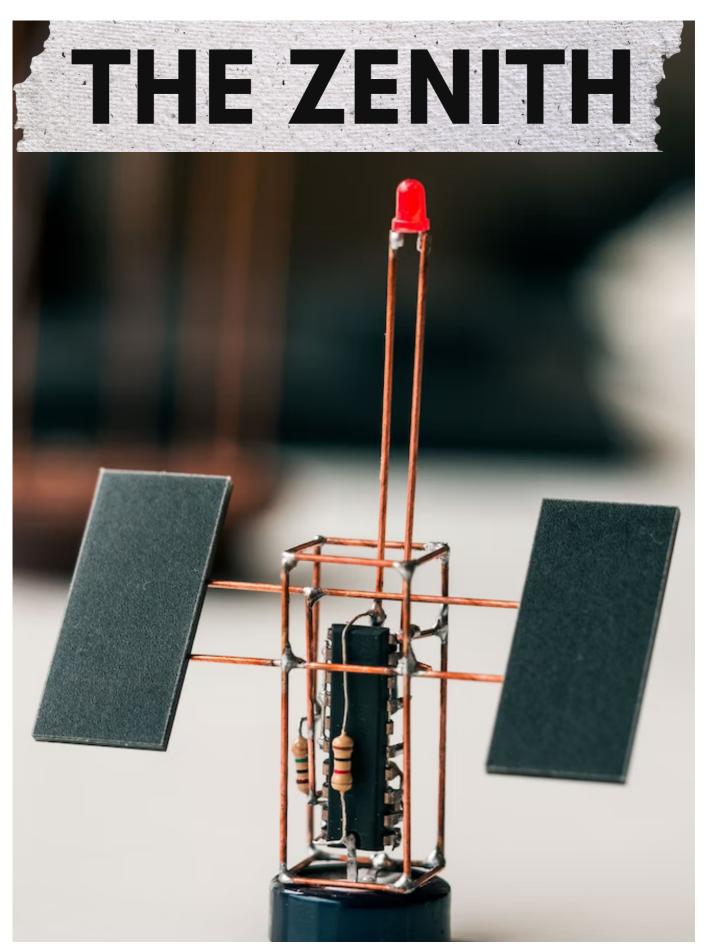
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Training of NABARD Officers

 Prof. Swanand Dongare of E&TC department of KKWIEER conducted a training session of NABARD officers on the topic "Climate Change - Resilience, Mitigation & Adaptation" on 2nd January 2023. This training session was organized by BAIF in Nashik. Total 36 District Development Managers (DDMs) of NABARD from different states of India participated in this training.



Prof. Swanand Dongare conducted training of NABARD officers on topic "Climate Change" on 02 Jan 2023



Prof. Swanand Dongare conducted training of NABARD officers on topic "Climate Change" on 02 Jan 2023

The Switch made from a Single Molecule

For the first time, an international team of researchers, including those from the University of Tokyo's Institute for Solid State Physics, has demonstrated a switch, analogous to a transistor, made from a single molecule called fullerene. By using a carefully tuned laser pulse, the researchers are able to use fullerene to switch the path of an incoming electron in a predictable way. This switching process can be three to six orders of magnitude faster than switches in microchips, depending on the laser pulses used. Fullerene switches in a network could produce a computer beyond what is possible with electronic transistors, and they could also lead to unprecedented levels of resolution in microscopic imaging devices.

Over 70 years ago, physicists discovered that molecules emit electrons in the presence of electric fields, and later on, certain wavelengths of light. The electron emissions created patterns that enticed curiosity but eluded explanation. But this has changed thanks to a new theoretical analysis, the ramification of which could not only lead to new high-tech applications, but also improve our ability to scrutinize the physical world itself. Project Researcher Hirofumi Yanagisawa and his team theorized how the emission of electrons from excited molecules of fullerene should behave when exposed to specific kinds of laser light, and when testing their predictions, found they were correct.

"What we've managed to do here is control the way a molecule directs the path of an incoming electron using a very short pulse of red laser light," said Yanagisawa. "Depending on the pulse of light, the electron can either remain on its default course or be redirected in a predictable way. So, it's a little like the switching points on a train track, or an electronic transistor, only much faster. We think we can achieve a switching speed 1 million times faster than a classical transistor. And this could translate to real world performance in computing. But equally important is that if we can tune the laser to coax the fullerene molecule to switch in multiple ways at the same time, it could be like having multiple microscopic transistors in a single molecule. That could increase the complexity of a system without increasing its physical size."

THE ZENITH — 02

The Switch made from a Single Molecule

The fullerene molecule underlying the switch is related to the perhaps slightly more famous carbon nanotube, though instead of a tube, fullerene is a sphere of carbon atoms. When placed on a metal point -- essentially the end of a pin -- the fullerenes orientate a certain way so they will direct electrons predictably. Fast laser pulses on the scale of femtoseconds, quadrillionths of a second, or even attoseconds, quintillionths of a second, are focused on the fullerene molecules to trigger the emission of electrons. This is the first time laser light has been used to control the emission of electrons from a molecule in this way.

"This technique is similar to the way a photoelectron emission microscope produces images," said Yanagisawa. "However, those can achieve resolutions at best around 10 nanometers, or ten-billionths of a meter. Our fullerene switch enhances this and allows for resolutions of around 300 picometers, or three-hundred-trillionths of a meter."

In principle, as multiple ultrafast electron switches can be combined into a single molecule, it would only take a small network of fullerene switches to perform computational tasks potentially much faster than conventional microchips. But there are several hurdles to overcome, such as how to miniaturize the laser component, which would be essential to create this new kind of integrated circuit. So, it may still be many years before we see a fullerene switch-based smartphone.

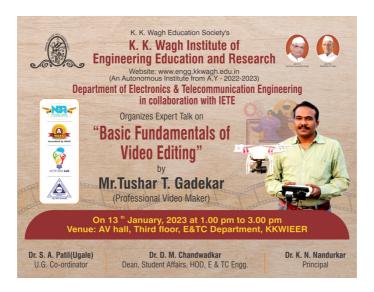
SOURCE: SCIENCE DAILY

Expert Lectures/Seminars/Courses Organised

• Department of Electronics and Telecommunication Engineering of K. K. Wagh Institute of Engineering Education and Research Nashik, Students' Association of Electronics Engineers (SAEE) in collaboration with IETE Nashik subcenter organized webinar on "Introduction to Video Editing" by Mr. Tushar T. Gadekar (Professional Video Maker) on 6th January 2023.

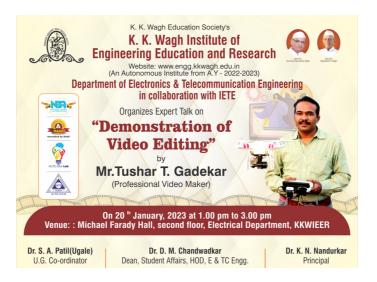


• Department of Electronics and Telecommunication Engineering of K. K. Wagh Institute of Engineering Education and Research Nashik, Students' Association of Electronics Engineers (SAEE) in collaboration with IETE Nashik subcenter organized webinar on "Basic Fundamentals of Video Editing" by Mr. Tushar T. Gadekar (Professional Video Maker) on 13th January 2023.



Expert Lectures/Seminars/Courses Organised

• Department of Electronics and Telecommunication Engineering of K. K. Wagh Institute of Engineering Education and Research Nashik, Students' Association of Electronics Engineers (SAEE) in collaboration with IETE Nashik subcenter organized webinar on "Demonstration of Video Editing" by Mr. Tushar T. Gadekar (Professional Video Maker) on 20th January 2023.



 Department of Electronics and Telecommunication Engineering of K. K. Wagh Institute of Engineering Education and Research Nashik, Students' Association of Electronics Engineers (SAEE) in collaboration with IETE Nashik subcenter organized webinar on "Quantitative Aptitude" by Mr. Sagar Nikam (Founder, Director, ELC) on 27th January 2023.



Expert Lectures/Seminars/Courses Organised

• Department of Electronics and Telecommunication Engineering of K. K. Wagh Institute of Engineering Education and Research Nashik, Students' Association of Electronics Engineers (SAEE) in collaboration with IETE Nashik subcenter organized webinar on "Introduction to Tinker CAD" by Dr. Pravin Wankhede (Assistant Professor, E&TC, SSGMCE, Shegaon) on 3rd February 2023.



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Industrial Training / Seminar / Workshop done by Staff



Sr. No.	Name of faculty	Subject
1	Dr. D. M. Chandwadkar	Digital Marketing (Elective 6)
2	Dr. S. A. Patil (Ugale)	Fiber Optic Communication (FOC)
3	Dr. K. S. Holkar	Biomedical Signal Processing
4	Dr. S. P. Munot (Bhabad)	Innovation & Entrepreneurship
5	R. R. Khinde	Mobile Computing
6	R. V. Chothe	Mobile Computing
7	S. V. Shelke	Mobile Computing
8	D. C. Shimpi	Fiber Optic Communication (FOC)
9	N. M. Bhujbal	Digital Business Management
10	P. P. Patil	Digital Marketing (Elective 6)
11	P. J. Mondhe	Innovation & Entrepreneurship
12	K. Nirmalakumari	Digital Marketing (Elective 6)
13	R. V. Daund	Digital Marketing (Elective 6)
14	M. V. Marathe	Digital Marketing (Elective 6)
4.5	S. D. Raut	Mobile Computing
15		Internet of Things-Industry 5.0
16	S. N. Badgujar	Digital Marketing (Elective 6)
		Mobile Computing
17	S. R. Baji	Artificial Intelligence and Machine Learning
		Start-up and Entrepreneurship

































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Placements



Sr. No.	Name of the Company	No. of Students Placed
1	Yotta	1
2	Crompton Greaves	1
3	IBM	1
4	Emerson	3
5	Marquardt India	1