The Science Festival (formerly known as TU/experience Day) is an exciting event for both young and old. There are all kinds of things for you to experience and do, hands on. Like presentations about prominent research at Eindhoven University of Technology: a self-repairing heart valve, a car that drives on powdered iron or a house that helps people who grow older. Come along and be inspired by the world of science and technology.

**SCIENCE SHOW**
A Science Show with projects of student teams and the department of Applied Physics. Presenter: Valerie Zeno

**DOMESTIC ROBOT FOR OLDER PEOPLE WHO ARE ILL**
Homes for the elderly run down and caring for old people is a task for fewer and fewer hands. To enable them to enjoy living at home for as long as possible, the NAO robot has arrived – a robot that is a sensible domestic friend able to help and support older people, even advising and warning the doctor where necessary.

**FUN WITH YOUR SKELETON**
Do you really know why you have a skeleton? It keeps your body together and protects your organs. Read more about it!

**ENERGY PEDALING**
Can you pedal fast enough to charge your mobile phone? Generate electricity by energy pedaling. The faster you pedal, the more energy you generate.

**VIRTUAL REALITY**
Do you ever dip into the virtual world? When you watch our Virtual Reality film, you dive right in and feel as if you are really part of it.

**SPORTCENTER TU/e**
The Eindhoven University of Technology Sports Center has a wide range of sports activities and workshops for students and staff. Take part in one of the workshops and relax!

**FOODTRUCKS**
At De Zaale on the festival terrain.

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Pull on a lab coat and safety goggles. You’re now ready for a chemistry practical lesson to make bathroom accessories. What about some shampoo, toothpaste or hair gel you make yourself?

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Engrave your name and graduation date in the glass of the walkway between Matrix and MetaForum that has been renamed Alumni Avenue.

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BUILD YOUR OWN ROBOT! Can robots think? See? Seek each other's company? So it seems if you see the Beebots: small robots that follow each other around and move in swarms. In this workshop you learn to build a robot with ‘attitude’.

LAPLACE BUILDING – Hall

TAKE A ‘TEST DRIVE’ IN THE CAR SIMULATOR The car simulator offers a virtual reality environment to simulate what it’s like to drive using a steering wheel, foot pedals and a display screen. You can test your skills by navigating through a virtual environment to reach your destination.

LAPLACE BUILDING – Hall

PLAY A COMPUTER GAME WITH A PILLOW Pillow is a controller, disguised as a pillow. You can control it by cuddling it, pressing on it or shaking it. Pillow is very user-friendly and this stimulates the contacts among all kinds of user groups. Infants, parents and seniors can have fun playing a computer game.

LAPLACE BUILDING – Hall

DESIGN YOUR OWN 3D PRINT! Industrial Design students learn to create prototypes to make their ideas tangible. The department offers several facilities to achieve this. For example the “rapid prototyping” lab, equipped with several machines such as 3D printers and laser cutters. 3D printing opened a whole new world for designing and producing products. Shapes that were impossible to create before, can now be realized by 3D printing. Sign up for a workshop in which you will learn to draw in a 3D program.

LAPLACE BUILDING – 4.10 – 5.00 hrs

DESIGN A FAST BOAT! Design a fast boat with the Young Raced Team.

LAPLACE BUILDING – Student Space

MADE A VISUALIZATION OF YOUR HEART! Heart Blouse was originally designed for children with a hereditary heart condition. Using paintbrush techniques, see, hear and feel how your internal ‘seed’ grows, heartbeat by heartbeat into a wonderful flower.

LAPLACE BUILDING – Hall

TU/e TALKS The presentations in Conna of Luna last 15 minutes, after which there are a further 15 minutes available for discussion and questions led by Lucas Assesbeck.

LAPLACE BUILDING – Room n°35

WORKSHOPS WEARABLE SENSES LAB The Wearable Senses Lab inside the department of Industrial Design can be seen as a mini-factory of the future. In this lab students have the opportunity to use and combine traditional crafting techniques (knitting, weaving, and digital embroidery) together with more advanced techniques (3D printers, laser, and virtual cutters). Join the workshops to learn more about the lab, the machines and the future of soft things!

LAPLACE BUILDING – WS Lab 13.00 hrs workshop age 8+ 15.00 hrs workshop age 12+

Nano magnetism: what is it and what can you do with it? Nanomagnetism and Spintronics concern the study of minuscule magnets and how these can be influenced by electrical currents. A magnet is ideally suited for storing data. If they are made really small, it is possible to store them and read huge amounts of information. In this lecture magnets will be used in a configuration that shows you the effect immediately.

Dr. Reinder Lariviére – Chemistry Applied Physics – 12.30-13.00 hrs

Exploring inaccessible places A focal area at the department of Electrical Engineering is the development of swarms of sensors that can be used to explore places that are hard to get to. Like sources of oil, chemical reactor chambers and maybe even our digestive system in the future. These swarms will become more and more accurate by themselves in the course of time and so.

Prof.dr.ir. Peter Baltus Electrical Engineering – 13.00-13.30 hrs

Climate change, renewable energy and energy storage Fossil fuels are depleting and climate change is forcing us to find smart solutions. Gerard van Roosj from the Dutch Institute for Fundamental Energy Research (DIFFER) tells us how plasma can help us to make fuels with renewable energy.

Dr. Gerard van Roosj DIFFER – 13.30-14.00 hrs

Little brain machines This technological solution provides insight into the workings of the human brain. Using microsystems we can make a Brain-on-a-Chip, a realistic model that helps in understanding of how the brain works in people who are healthy or ill.

Dr. Regina Lutjeg – Mechanical Engineering – 14.00-14.30 hrs

Driving on powdered iron What if there is more gasoline in 50 years? We still want to drive though. Researchers at TU/e may have found a solution: fill your tank with powdered iron. When combusting powered iron, a lot of energy is released that can be used, for example, to power your car.

Prof.dr.ir. Niels Douw – Mechanical Engineering – 14.30-15.00 hrs

A self-healing body Wouldn’t it be great if our body could heal itself? Anthal explains how he wants to get the immune system working to enable soft tissue like the heart and the skin to become healthy again after they have been damaged.

Dr. Anthal Smith – Biomedical Engineering – 15.00-15.30 hrs

I live in a Robot This is a house that “feels” with the (aging) resident and may be able to take over some of or assist the work of volunteer care workers. Like a smart floor that warns when there is a risk of falling down. Or a conductive strip of lighting on the wall and floor to support or stimulate daily activities.

Prof.dr.ir. Maxi Mohammadji Build Environment – 15.30-16.00 hrs

Brainport Smart District This new smart technology is being used for transport, health, energy production and storage, etc. to create a sustainable, social and attractive neighborhood. Residents are playing an important role in the development of their own surroundings that can constantly be adjusted to changing circumstances.

Marie de Klijn NSC Built Environment – 16.00-16.30 hrs

Light in your brain Light not only helps us to see but it also steers our central body clock. In this way it affects how we sleep, our concentration, our mood and even whether we gain or lose weight. This makes it even more important for us to think about lamps and all the other things that produce light, such as laptops, tablets and telephones.

Prof.dr.ir. Yvonne de Kort Industrial Engineering & Innovation Sciences – 16.30-17.00 hrs

LUMENUS Did you also enjoy GLOW 2016? Lumenida was part of this event and had been developed by the students of TU/e. This complicated structure is fully based on a push-and-pull relationship: rods and steel cables keep each other in balance, with the rods illuminated from inside. This illumination reacts to stimuli provided by the public. Sensors enable the object to become slowly taken over by different colors. The ideas of the public combine to create the picture and thus produce an interactive and living work of art.

LAPLACE BUILDING – 4.10 – 4.30 hrs

BECOME ACQUAINTED WITH THE IO-SANDBOX. In a scale-model furnished apartment see how six interactive objects respond to and communicate with each other. The ‘Internet of Things sandbOX’ offers students the possibility to develop smart solutions for the home.

LAPLACE BUILDING – Student Space

WORKSHOP ROBO-DRAW Use a remote-controlled robot trolley to make your own drawing.

LAPLACE BUILDING – Student Space

DIFFER (Dutch Institute for Fundamental Energy Research) opens its doors. Find out all about research into renewable energy and energy storage.