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At Brussels' EU science fair, children sketch new inventions and eavesdrop on bacteria

At the EU's Science is Wonderful! fair in Brussels, top researchers used superheroes, soap bubbles and dance music to wow children – and encourage tomorrow's scientists.

02 April 2026 - By TOM CASSAUWERS

A lecture hall explodes with sound as the electronic dance hit *I Like to Move It* by Reel 2 Real blasts through the speakers. A class of 11-year-olds in fluorescent vests bounce through their own version of jumping jacks, urged on by some of Europe's leading researchers at the front of the room.

The task is to help an out-of-shape superhero, Mr Fit, get back in shape after letting himself go. He does this by exercising, eating healthily and getting enough rest, which the academics demonstrate to their enthusiastic audience through a series of games.

Mr Fit is a researcher from the University of Granada in Spain, hoisted into a superhero costume for the occasion – the annual EU-funded event Science is Wonderful!

"We study children's habits and analyse how these can impact their health later in life," said Cristina Cadenas-Sanchez, a professor at the University of Granada and leader of the team of academics. "We take measurements in schools, for example, and track these children as they grow up."

They were now presenting their PreCaFit research during the science fair in Brussels, where children aged between 7 and 18 got to meet world-class scientists and learn what they do.

More than 150 researchers, spread across 43 booths, talked about everything from earthquake-resistant housing, to monkeys, mathematics and malaria.

Most of the research showcased at the fair was led by Marie Skłodowska-Curie fellows, who are part of the EU's doctoral and postdoctoral research training programme, with a few booths run by European Research

Council grantees.

At the fair, that meant interactive stands, plenty of enthusiasm and, occasionally, researchers putting on a superhero costume. For many, it was a labour of love, driven by a desire to share their passion for science with today's young people.

"This event builds a bridge to the future generation of researchers," said Sybille Luhmann, project manager for the 11th edition of the event. "It deconstructs the myth that science is an ivory tower. From social to exact sciences, science can push us and improve our daily lives."

Bacterial vibrations

In another room, a class of younger children huddled around a table as a strange, robot-like noise erupted from a machine.

This was the booth run by Alberto Martín-Pérez and Liga Jasulaneca of the Technical University of Delft in the Netherlands, who work on PROPHOTOM, an EU-funded project developing ultra-sensitive vibration-based sensors for tiny organisms such as bacteria.

Here, the challenge was to turn that invisible world into something children could see and hear.

"I start by asking what sounds animals make, such as cows, chickens or dogs," said Martín-Pérez. "The children love screaming those sounds. Then I ask them what sound bacteria make. Then they get silent. In our research, we detect the sound of bacteria."

"Sound and movement are closely related," Martín-Pérez said. "A guitar string vibrates and makes a sound. Obviously, we cannot hear the vibrations of bacteria. But our group has built technology that can detect it."

They explain this to the children by first making sounds on various strings, then moving on to a frequency generator – a machine that vibrates a plate at a specific frequency and makes noise as it does so. Finally, they show the children their technology and the strange humming sound created by bacterial vibrations.

"It's intense, explaining all of this," said Jasulaneca. "Sometimes we are working with two interpreters at the same time. But it's so powerful when the children get it."

Dengue in Europe

Not far away, mosquitoes, kissing bugs and sandflies took centre stage. That "bug booth" was run by Raquel Martins Lana, helped by Andria Nicodemou from the Barcelona Supercomputing Center, and Tatiana Docile of the Rio de Janeiro State University (UERJ). Martins Lana is working on REGIME, an EU-funded project on climate-sensitive infectious diseases.

Her research team studies insect-borne diseases such as malaria, dengue and leishmaniasis, and develops computer and statistical models to track their spread.

Martins Lana is doing her secondment, or research stay, at the Climate and Health Observatory, Oswaldo Cruz Foundation - Fiocruz in Rio de Janeiro.

The diseases they study are spreading beyond tropical regions. "Because of climate change, diseases like dengue are pushing up into Southern and Eastern Europe," said Martins Lana.

The researchers teach the children about these diseases through games, showing how they spread and how they can be prevented – from using mosquito nets and repellents to using vaccines when available and

removing stagnant water.

“Children take this information home,” said Martins Lana. “They then start to teach their families and become the best helpers we can ask for.”

Soapy maths

Roberta Marziani, a mathematician at the University of Siena in Italy, used soap bubbles at her booth to explain complex mathematics while illustrating her TopSing project, which explores how surfaces bend, stretch and form minimal shapes.

“I study Plateau’s problem,” said Marziani. “Here you look for a minimal surface spanning a given contour in a space.” In simple terms, it is about finding the smallest possible surface that stretches across a given boundary.

As abstract as this sounds, there is a simple way to present it – soap bubbles. If you put a metal frame into soapy water, the soap bubble that forms will occupy the minimal possible surface.

That can help us design more efficient electronics, where wires are as short as possible. Architects use similar calculations to work out how best to design roof structures.

“Children are very impressed by this,” said Marziani. “But they also just like to play with the bubbles,” she laughed.

Marziani hopes this may draw children towards mathematics. “Test scores for maths are decreasing across Europe and student interest is getting lower,” she said. “I love mathematics, so it’s great to make it more appealing to them.”

Natural connection

In the middle of the bustle, artist Valentine De Cort had set up her corner. Crowds of children gathered around her to see what she was doing on her computer.

“I ask the children two questions: why do you like science, and what would you like to invent?” she said. “I then make live illustrations of their inventions.”

The wall behind her was covered in her drawings, from the sensible to the utterly outlandish. One was a machine that converts water into soda, another featured an owl that can see everything, removing the need for police.

One boy wanted to invent a device that could make people bigger. A girl wanted a machine that could drown out the sound of her mother asking her to clean her room.

“It’s just great to hear how inventive they are,” said De Cort. “Sometimes it is a challenge to draw, but it always puts a smile on my face.”

Over three days, more than 4 200 children visited this year’s edition of the fair. For Luhmann, however, the real success lay in the connections forged between scientists and children.

“Scientists and children are two of the best audiences I ever worked with,” she concluded. “You do academia because you have a burning question and you want answers. Kids are very similar. When you bring the two together, it’s a natural connection.”

The views of the interviewees don't necessarily reflect those of the European Commission. If you liked this article, please consider sharing it on social media.

Did you know that the Marie Sk?odowska-Curie Actions turn 30 this year?

This edition of Science is Wonderful! coincides with the 30th anniversary of the Marie Skłodowska-Curie Actions (MSCA), the EU's flagship programme for doctoral and postdoctoral training. Since 1996, MSCA has supported more than 150 000 researchers across Europe and beyond, fostering mobility, collaboration and knowledge exchange across borders, disciplines and sectors.

The fair reflects this legacy in action, showcasing research led by MSCA fellows and bringing it face to face with young audiences. By giving children the chance to meet scientists, explore real-world research and see its impact on society, such initiatives help inspire the next generation of researchers and innovators.

More info

- Science is Wonderful!
- Marie Skłodowska-Curie Actions
- MSCA 30th anniversary webpage
- PreCaFit (CORDIS)
- PROPHOTOM (CORDIS)
- REGIME (CORDIS)
- TopSing (CORDIS)