

# Eureka! Unique exhibition in Rome honours Archimedes

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The great inventor of Antiquity, Archimedes, is the star of an unprecedented exhibition opening in Rome which includes modern applications of some of his best known discoveries.

"We owe him some revolutionary inventions," Umberto Broccoli, head of cultural heritage in the Italian capital, said at a press presentation of the show.

"He was a precursor to [Isaac Newton](#) and [Albert Einstein](#)—an inventive genius par excellence."

"[Archimedes](#): Art and Science of Invention" at the Capitoline Museums opens Friday and runs until January 12.

"There has never been an exhibition on Archimedes," said Paolo Galluzzi, head of the Galileo museum in Florence, one of the organisers along with the museum of the history of science in Florence and the Max-Planck Institute in Berlin.

"He managed to combine mathematical reasoning and the formulation of theories that are still taught in our schools 2,300 years later with concrete solutions like the ones to defend his hometown of Syracuse against a siege by the Romans," he said.

The exhibition is divided up into eight sections, accompanied by videos of some of his experiments.

"After Rome, the exhibition will definitely go to Germany and why not to China, Japan and some countries of the Arab world," said Jurgen Renn, director of the Max-Planck Institute, emphasising the global resonance of the inventor's discoveries.

"He is the example of the synthesis between apparent complexity of initial needs and the amazing simplicity of the solutions," he said.

Thanks to the archaeological collections of the Paolo Orsi Museum in Syracuse in Sicily, the show illustrates the splendour of the city in the third century BC when it was part of Ancient Greece.

It places Archimedes in the rich context of Mediterranean culture, exploring his contacts with Alexandria where he studies sciences and with geographer and astronomer Eratosthenes.

During a period of peace that lasted half a century, Archimedes became one of the closest collaborators of the king of Syracuse, Hiero II.

Archimedes was a brilliant physicist, who invented the screw pump that is still used to irrigate farmland and drag ships into dry dock today.

He was also the inventor of the water clock and the theory of levers used to lift heavy weights.

But his most famous discovery, which is also shown in the exhibition, was the method to calculate mass based on the displacement of water.

After being asked by the king to verify the amount of gold in his crown, Archimedes was initially non-plussed, but as he was taking a bath and saw the water spilling over he realised he could do so by calculating the volume of water it displaced.

"Eureka!" ("I found it!"), he is said to have exclaimed, before running naked in the streets to announce his famous discovery.

In a long siege of Syracuse by the Romans between 215 and 212 BC, Archimedes perfected the use of catapults and is credited with inventing "burning mirrors" that set fire to the Roman fleet by harnessing the power of the sun's rays.

The exhibition also shows that the a "myth of Archimedes" took root shortly after he was assassinated by a Roman soldier, thanks to the emperor Marcellus and the writings of the architect Vitruvius and the historian Plutarch.

Forgotten for centuries, the inventor was re-discovered in the Middle Ages by Islamic civilisation and then again by the Renaissance.

His teachings were the basis for discoveries by Galileo Galilei and Leonardo Da Vinci—a fact highlighted at the exhibition through their writings and the reproduction of a cannon that Archimedes is said to have invented.

The [exhibition](#) ends in a hall where visitors can try out machines based on discoveries made by Archimedes—a kind of satellite dish that projects sound, a steelyard balance and a tool for designing spirals used in sewing machines.

More details are available at [mostre.museogalileo.it/archimede](https://mostre.museogalileo.it/archimede)

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