



# COLLOQUIUM DI FISICA

**Giovedì 23 maggio 2019, ore 15.00**  
**aula "A. Rostagni"**

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## Symmetries in nature, art and science



The world of nature offers many examples of symmetries: from crystals to snowflakes and butterfly wings. Science and art are not separate worlds; they can intersect, and one of their points of intersection is symmetry. Both artists and scientists have had to contend with symmetries, and for both they are a tool, albeit in different ways. For the physicist, symmetry is a



way to understand and decipher the

laws that govern the universe. Indeed, to study a system, it is important to understand what its symmetries are, and also how the system breaks them. In art, on the other hand, the use of the concept of symmetry has evolved over the centuries. Images will be shown that will clearly illustrate how the concept of symmetry has been used. In parallel, it will be explained how the concept of

symmetry was elaborated mathematically and then used in physics, chemistry and other sciences. The predictive abilities of the concept of symmetry in art and science will be explained through intuitive images. Finally the more modern concept of broken symmetry will also be illustrated, and images will be used to depict how modern science describes the world and its laws.

