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When physics meets philosophy again: the “Gravitas” project

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Gravity is, by far, one of the scientific themes that have most piqued the curiosity of scientists and philosophers over the centuries. From Aristotle to Einstein, from Hawking to now on, scientists have always put a creative effort to solve the main puzzles of the understanding of our universe: why do things move, the birth of the cosmos, dark matter, and dark energy are just a few examples of gravity-related problems. Philosophers are interested in this field, too, and when they have met physicists’ needs, a new conceptual revolution has started. However, since Einstein’s relativistic theories and the subsequent advent of quantum mechanics, physicists and philosophers have taken different paths, both kidnapped by the intrinsic conceptual and mathematical difficulties inherited by their studies. A question arises: is it possible to restore a unitary vision of knowledge, overcoming the scientific-humanistic dichotomy that has established over time? The answer is certainly not trivial, but we can start from school to experience a new vision of a unified knowledge. From this need, the “Gravitas” project has been born. “Gravitas” is a multidisciplinary outreach and educational program devoted to high school students (17-19 years old) that mixes contemporary physics and the philosophy of science. Coordinated by the Cagliari Section of the National Institute of Nuclear Physics, in Italy, “Gravitas” has started on December 2021 with an unconventional online format: two researchers coming from different fields of research (physics vs philosophy, history of science, scientific communication) meet a moderator and informally discuss about gravity and related phenomena. The public can chat and indirectly interact with them during the YouTube live using Mentimeter. The project involves 250 students from 16 high schools in Sardinia, Italy. Students have also been involved in the creation of posts thought for social media platforms whose content is based on the seminars they attended during the project. In this talk, we present the project and discuss its possible outcomes concerning the introduction of a multidisciplinary approach in teaching physics, philosophy, and the history of contemporary physics in high schools.

In-person participation

Yes

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