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Quantum physics reimaged for the general public¹

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Quantum Physics has always been a challenging issue for outreach. It is invisible, non-intuitive and written in sophisticated mathematics. In our “Physics Reimagined” research group, we explore new ways to present that field to the general public. Our approach is to develop close collaborations between physicists and designers or graphic artists. By developing this new kind of dialogue, we seek to find new ways to present complex phenomena and recent research topics to the public at large. For example, we created with web-illustrators a series of 3D animations about basic quantum laws and research topics (graphene, Bose-Einstein condensation, decoherence, pump-probe techniques, ARPES...). We collaborated with designers to develop original setups, from quantum wave animated models or foldings to a superconducting circus with levitating animals. With illustrators, we produced exhibits, comic strips or postcards displaying the physicists in their labs, either famous ones or even our own colleagues in their daily life as researchers. With artists, we recently made a stop-motion picture to explain in an esthetic way the process of discovery and scientific publication. We will discuss how these new types of outreach projects allowed us to engage the public with modern physics both on a scientific and cultural level and how the concepts and process can easily be replicated and expanded by other physicists. We are at the precise time when creative tools, interfaces, and ways of sharing and learning are rapidly evolving (wikipedia, MOOCs, smartphones...). If scientists don't step forward to employ these tools and develop new resources, other people will, and the integrity of the science and underlying character of research risks being compromised. All our productions are free to use and can be downloaded at www.PhysicsReimagined.com (for 3D quantum videos, specific link: www.QuantumMadeSimple.com)

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