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Physics on the Infinite Canvas, A new tool for popularization and pedagogy

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"Physics on the Infinite Canvas"("La Fresque des deux infinis"in French) is a fun, collaborative workshop based on collective intelligence, created in 2024 by physicists from CPPM and CPT. This original tool aims to popularize theoretical and experimental physics at both the infinitely small and the infinitely large scales. Its goal is to introduce major physics discoveries across these two domains by highlighting key theoretical and experimental breakthroughs. Besides science outreach, it also serves as an educational resource for teachers in schools and universities.

The collaborative workshop is built around a set of printed cards featuring texts and illustrations. These are divided into several categories: Scientific cards, Open question cards, Scientist cards, Technological application cards, Scientific instrument cards, Research career cards, and Science fiction "technology"cards.

In the full version, each session, led by a facilitator, lasts around three hours and involves a group of 5 to 9 participants. It is structured in two parts: mapping and debriefing. During the mapping phase, participants collaboratively arrange the scientific cards into a "canvas,"with time on the horizontal axis and the physical scale on the vertical axis, connecting the cards through logical, physical, and historical links. This phase relies on the group's collective intelligence. The debriefing phase then aims to spark interest in science, from raising public awareness to inspiring students to pursue scientific careers. The facilitator uses the completed canvas to launch discussions using the thematic card sets: scientists, instruments, applications, and/or careers. A shorter "quiz"version, lasting about twenty minutes, uses a smaller set of pre-arranged cards displayed on a printed canvas for a quick, interactive session.

To promote gender parity, the scientist cards highlight the contributions of women in physics. Facilitators are trained to be mindful of these issues and to encourage young women to consider careers in science.

This presentation will outline the main features of the workshop and introduce our open-source project to distribute it via a Git repository containing scripts and LaTeX files. We will explain how to contribute to its international development as a facilitator, developer, or content creator.

Secondary track

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