

Quantum Outside the Box

- a series of interdisciplinary exchange

Quantum Physics & History

Philophysics: A History of Vienna Quantum Foundations

4th April
16:30 - 20:00
Lise Meitner Hall
Boltzmannngasse 5

Speaker:
Flavio Del Santo
Moderator:
Maria Eftychia Papageorgiou



While in most universities worldwide, the foundations of quantum mechanics remain outside mainstream research, in Vienna, this field thrives. With two Nobel laureates, E. Schrödinger and A. Zeilinger, for their contributions to the foundations of quantum mechanics, and hundreds of active researchers, Vienna is now recognized as one of the strongholds for quantum foundations. But how did this come about? In this historical journey, we will explore how such a fertile ground for foundational research emerged from a unique cultural milieu dating back to Vienna's intellectual golden age, when physics and philosophy were deeply intertwined. We will also examine how the rise of Nazi-fascism disrupted this thriving environment and how Viennese institutions struggled to reconstruct modern physics after WWII. Moreover, the postwar era's pragmatic approach to physics, epitomized by the motto "shut up and calculate," relegated quantum foundations to almost taboo status. Even J. Bell, whose inequalities paved the way for quantum nonlocality and quantum information science, received little recognition for his foundational contributions during his lifetime. We will see that, while this was also apparently the case in Vienna, physics and philosophy were never fully disentangled, and foundational interest kept smoldering under the ashes of pragmatism.

